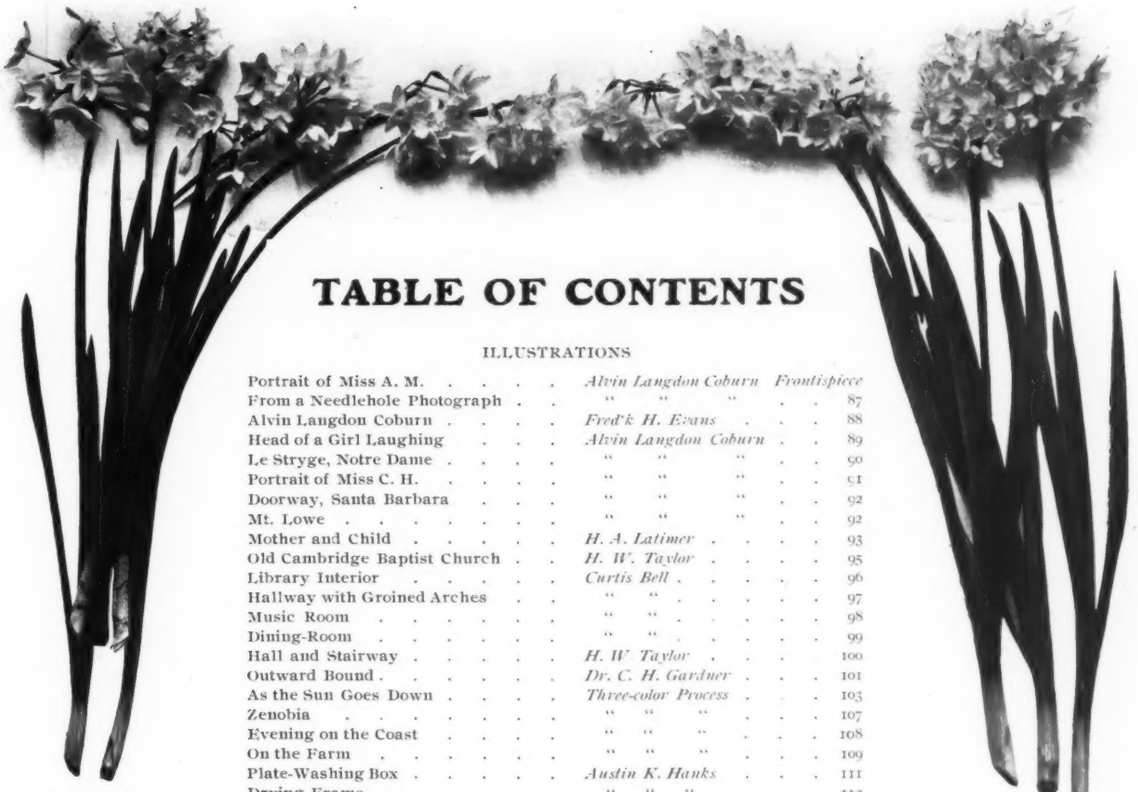

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NEW ENGLAND AGENTS

PORTRAIT OF MISS A. M.

By Alvin Langdon Coburn.

PHOTO ERA

The American Journal of Photography

VOLUME X | MARCH, 1903 | NUMBER 3

March

Ah! passing few are they who speak,
Wild, stormy month, in praise of thee!
Yet, though thy winds are loud and bleak
Thou art a welcome month to me.

—Bryant.

Some Photographs by Alvin Langdon Coburn

THOS. HARRISON CUMMINGS

THE ability to make expressive and artistic photographs is not a common possession, as some might think, but a rare gift, and the reason is plain. To reach the highest levels in artistic photography one should have not only more than the usual skill in craftsmanship to produce photographs that have fine qualities of technique, but, in addition, there should

From a needlehole photograph. By ALVIN LANGDON COBURN.

ALVIN LANGDON COBURN. By Fred'k H. Evans, London.

also be æsthetic intelligence, which is the mental capacity to appreciate and reproduce the salient features of a subject in portraiture, or the delicate subtleties of an effect in landscape, marine, or genre work. We all know some pictures that are built up scientifically, step by step. Little by little the photographer proceeds, collecting first the fundamentals and then building upon them with facts and details until the complete result is achieved. Such a picture may be valuable for its sincerity and scientific accuracy, and the depth of thought it may reveal. Yet it falls short of being an artistic photograph because it lacks the charm of spontaneity and the grace of unconsciousness. But when the artist is possessed of a soul open to impressions, and trusts his impressions rather than his technical ability, his pictures are sure to be of a different character.

They may lack technical excellence, but they are sure to be pleasing and attractive, because they reflect the dainty waywardness of nature, to whom they owe their inspiration. They express the artistic aspirations of the photographer rather than the mechanism of his professional methods, and they summarize all that is necessary to give meaning and vitality and artistic excellence to pictures, viz., artistic feeling — soul.

These ideas have been suggested by the recent exhibit of pictures given by Mr. Coburn before the New York Camera Club, and now being shown at his new studio, 827 Boylston street, Boston, during the month of March.

These pictures, as a whole, show wonderful versatility on the part of the artist. He is a worker who combines in a marked degree the qualities of taste and execution that make for sound photographic work. His judgment in selecting subjects is healthy, his adaptation of material is clever and ingenious, and he has a certain grace of style that individualizes his work and renders it distinctive from that of others.

From what we can gather Mr. Coburn owes little to any of the formal systems of art teaching by which the modern photographer can be prepared, if he so chooses, for doing artistic work. His manner of training has been largely self-

HEAD OF A GIRL LAUGHING. By Alvin Langdon Coburn.

discipline, searching out alone and unassisted the details of knowledge that his profession demanded.

Ten years ago, as a mere boy, he started in with an old 4 x 5 Eastman Daylight loading film camera. As time went on he began to do more ambitious work, and later he studied under the direction of F. Holland Day, of Boston, and of Mrs. Gertrude Kasebier, of New York. Thus he grew up amid teachers and surroundings that would best develop in him the pictorial and artistic instinct. Meanwhile, being anxious to excel as a photographer, he has thrown himself enthusiastically into the work of training himself to rightly understand and express by photography artistic thought and feeling.

His pictures show that he is a sincere student; that he is deeply impressed not only with the necessity of giving the closest possible attention to facts and details, but also that he must be fully responsive to the spirit and inspiration of the scene or person depicted.

His studies from nature and his portraits from life have a peculiar freshness of interpretation that is very pleasing. He has learned thoroughly the technique of his lens, camera, and chem-

LE STRYGE, NOTRE DAME. By Alvin Langdon Coburn.

From an Ozotype.

icals, and he has a rare facility in the management of light and shade for one so young.

To know instinctively what are the fittest things to reproduce is partly a gift and partly acquired. By constant study and comparison he has learned to differentiate between the details that are essential and those that serve no urgent purpose in a picture. This knowledge, added to a natural aptitude in him to choose the right thing, has enabled him to express himself in his pictures with artistic brevity and directness, which some great writer has called the soul of true *æstheticism*.

Furthermore, by experimenting in all the various mediums of his craft he has fitted himself for proficiency in many branches of artistic work.

Among the various processes the gum platinotype method seems to be his favorite method of work. It is a double system of printing; first printing the platinotype and then working the gum. The advantage of this process would seem to be a combination of the detail of the platinum with the breadth of the gum in the finished result. All of Mr. Coburn's mission pictures are excellent examples of this work. But it is in artistic portraiture that he especially excels.

His portraits, as a rule, are well posed and well modeled, the lights being so cleverly managed as to mass the details and conceal the care taken in their presentment.

The years 1899 and 1900 were spent by him in England and on the Continent. The effects of the influence of the foreign schools of photography upon his later work were very marked. He studied technique under Thomas Manley, of London, of Ozotype fame, probably the greatest living technician in England to-day. He met and worked with the Cadbys and Frederick Evans, also of London, whose beautiful architectural pictures are the delight of the photographic world. In Paris, he met Demachy, of gum bichromate fame, Puyo Rene le Begue, and the leading members of the Photo Club of that city. And association with these and other leading lights of the photographic world broadened and strengthened Mr. Coburn's knowledge and sympathies. For, through it, he learned to master the principles underlying decorative composition in his pictures, and this mastery has, in its turn, given breadth, simplicity, and repose to much of his later work.

Composition, as the word is used in art and photography, is defined to mean a general term

PORTRAIT OF MISS C. H. By ALVIN LANGDON COBURN.

From Ozotype on Japanese Vellum.

DOORWAY, Santa Barbara.

covering the individual worker's choice and arrangement of forms and colors, lines and spaces, in order to perfectly and beautifully express his idea and carry out his plan. Through observing the art productions of others, and through studies of nature, one may develop right judgment for form and color, and a right appreciation of the fitness of things. Furthermore, filling one's mind with conceptions of beautiful objects in form and color helps to cultivate the power of idealizing familiar things and their relations to each other. In a word, composition stands for individuality in art. "The study of composition," says Dow, "means art education for the entire people, for every child can be taught to compose — that is, to know and feel beauty and to produce it in simple ways."

Elsewhere he further says: "In my experience, art instruction must begin by awakening the perceptions of beauty, by causing an exercise of choice and judgment, that reflects the personal thought or emotion of the student. The pupil makes several designs, chooses the best, compares them with similar things in the art world and is helped to perceive the style and distinction of the really fine things. By continually exercising his judgment and personal feelings, he gains creative ability. This simple beginning underlies painting, sculpture, architecture, and decoration," and he might have added photography.

A careful study of the Coburn pictures will show that composition as a feature of his art instruction stands for the development in him of individual creative power. He has learned by experience that certain principles underlie all good composition, and he utilizes these principles in his own creative work to great advantage.

On the whole, we believe that Mr. Coburn may well feel satisfied, not only with his decision to work out his own destiny but also with the ability he has shown to choose the right manner of training himself without dependence on any particular school or instructors. He is, to-day, an artistic photographer of the best class, and he has gained his position in the photographic world by virtue of his ability to make pictures by photography in the right way.

MT. LOWE. By Alvin Langdon Coburn.

MOTHER AND CHILD.
By H. A. Latimer.

Reveries of a Photograph

He who has the courage to face a camera may presume to face a cannon. Though results differ, each may be far-reaching. The cannon may hurl us into eternity and end our career summarily; but the camera may hurl us beyond eternity three or four generations and keep us smiling right on as though nothing had happened. It behooves one, therefore, to stop and consider before putting himself in danger of either; then if he concludes to venture, let him put his countenance in order, so that if he should happen to fall into the hands of the enemy, he may create the impression he died "game" and went to the proper place.

If we face the cannon, there is some slight consolation in the thought, we may be missed; but if we face the camera, escape is impossible: we shall at least be wounded! Herein lurks a danger that must give us pause. For who would live on, and on, in a state of chronic pallor and emaciation, mangled, faded, and hurt beyond recognition? And yet, the average rural album is replete with many such specimens of troubled and suffering humanity.

But there are cameras, on the other hand, that act on the "system" like the "X-ray"; that enhance comeliness and cure defects. These do business. People will patronize doctors who

can cure. Certain junior members of the family located such an artist in St. Louis in the person of Monsieur Strauss, and recent treatment has tended to inspire cogitation along this line. We were not a willing subject, but family counsel prevailed, we finally submitted, and our friends insist we are improved,— some say even unto thirty years!

Our objections were not so much to present treatment, as to future possibilities. Who can tell to what use one's image may come, or where it may hang? We remembered seeing in the Accademia delle Belle Arti, in Florence, the celebrated statue of David, by Michael Angelo, exposed to public gaze clothed only with a shepherd's sling! We are persuaded it was not with his own or his family's consent. Prophetic vision inspired him to place himself on record in the 142d Psalm:

> "I looked on my right hand and beheld, but there was no man that would know me; refuge failed me: no man cared for my soul. Deliver me from my persecutors, for they are stronger than I."

We are not ambitious. We yearn not for extraordinary preservation of form or feature, and believe in David's innocence, also.

We acquiesced meekly when instructed to rest our eyes on the northwest corner of the machine; but it is not clear to us what they may rest on in the years to come,— in the event the machine, and the family, withstand the shock. The good Book informs us the gentle Psalmist's eyes originally rested on the Philistine; but when we saw them, they were gazing with a deep and abiding interest at a lunch-basket in the hands of a "new woman" tourist.

Poetic license was then taken with our person. Our chin was caressingly subdued and our neck wrenched, while our jaw was indulged. Our arm was gently assisted to lodgment athwart our vesture and our charm of watch-chain and "Shrine" put in evidence. We were "holding on to the rope," as it were, when the operator reached up and reefed the mizzentop-sail, loosed a jib, tacked a point to starboard when a new and fiercer light dawned on the subject.

It became evident we were to view matters henceforth in this light and from this standpoint. It was equally, even painfully, evident we were by this act inviting inspection and challenging criticism. Then it were high time we were assuming a sort of variegated expression suitable for parlor, drawing-room, library, or loftier locality. For we are to look down the years on descendants, and descendants' descendants, with this same look, as they file by and indulge in remarks anent their ancestor. We must either prepare and execute that look now, or forever after hold our peace. The operator overtook the look we were practicing on, and begged us to reconsider; and, in an unguarded moment, pressed the button, and we are transfixed.

The die is cast, and we are doomed to wear a pleased expression under all circumstances. We may not change our features in all the years to come, but smile right on though the style of our clothes be called in question, or the facetious visitor indulge in remarks relative to our old twentieth-century coat, photographed in black and white, probably before color photography was in vogue. We may want to cry out at sweet nothings whispered in our presence; or howl during the practice hour; or weep at sight of the dead face of one they vainly imagine has gone up, our way; but we smile on in the same old way, with dust on our nose and cobwebs in our ears, and look content and happy.

But however much we may exert ourself to keep up appearances and hold our place in the back parlor or spare bedroom, one dark rainy night the cord breaks, and our picture takes a tumble. The dust swaps places with the cobweb, and our whole constitution suffers a general shaking up. This, together with the "bad luck" precipitated on the family by our fall, causes it to be decreed that we be forthwith deframed and relegated to the attic. Nobody remembers who we are anyhow; and we were allowed to remain as long as we did only because our antique frame harmonized with the cabinet mantel, and covered an ugly hole in the fresco. And then the exquisite work of the artist was much admired.

So we take up an uncertain abode in the attic, there to smile on antiquated furniture, old clothes, swings, doll-rags, doll-houses, etc. Second childhood comes on apace. A rainy day drives the children indoors, and they gather in the attic. A pair of rusty scissors in the hands of an infantile prodigy makes "paper dolls" of a lot of us ancients and we smile again as we play "come-to-see" with our great grandmother!

Industrious rats, attracted by the paste and cajoled by the smile of the old photo, follow the children; and in a few short hours that twentieth-century coat, that benign countenance, that charm of watch-chain and smile,— tattered and torn, weary and worn, lacerated and masticated, — finally disappears among the innocent ratlets of a rat's nest,— to their utter discomfiture and final extermination, Then,— then, comes a demand for our picture.

OLD CAMBRIDGE BAPTIST CHURCH. By H. W. Taylor.

Interiors, by Daylight and Flash-light

HERBERT W. TAYLOR

THE photographing of interiors is a branch of our art-science which appeals to the lover of truly beautiful effects, leading as it does to the study of esthetic arrangements of the furnishings of a house and the most judicious placing of pictures, bric-a-brac, etc., together with the innumerable little touches which serve to make an interior both artistic and homelike. Yet I have in mind one house of wealth where such a refining influence was much missed, where the mistress was an enthusiastic collector of old furniture, engravings, and pewter; but her ardor had so far exceeded her judgment that the stately mansion resembled a museum, and there was no one room in which one could sit down and feel that it was home.

Another house in which I have made photographs is the summer home of a gentleman whose ample means permit the gratifying of a happy taste for beautiful effects. An old house, remodeled to serve the needs of a luxurious bachelor, the appointments are seen to be all in excellent taste — numerous valuable pieces of old furniture placed where there is a sufficient reason for their being; and a fondness for china evidenced by many beautiful specimens displayed upon the walls, but in a pleasing and legitimate style. This long, low room presented a problem to the photographer. Lighted by a row of old-fashioned, small-paned windows, but only dimly lighted because of the comfortable twelve-foot piazza which finds its limits only in the length of the charming old house, the deep shadows on the floor, under the billiard-table, and in the corners, were quite too much for my usual method of daylight exposure.

I firmly believe that daylight exposures render more just values than can be obtained by flash-light, and I understand that the most successful operators in this branch agree with the theory; but in this case the artificial light was a necessity, so I compounded my theory with the necessity. After an exposure by daylight of half an hour, I used a flash-lamp, walking about with it so that the flash should illuminate first one dark corner and then another. By this means my plate was evenly exposed, and the details in half-tone and shadow were well reproduced in the picture, while the long daylight exposure caused the light parts of the room to appear light,

and the relative values of light and shade appeared in the print as in nature.

A flash-lamp is undoubtedly the best means for producing artificial light, and I find a decisive advantage in the fact that the light continues as long as you blow through the tube, and that it is suspended immediately upon ceasing to blow, so that it is practicable to move the source of light about from one spot to another, as I have mentioned doing. Of course it will be understood that the light must always be so placed that the flash shall not strike the lens, and another important fact is that nothing but pure magnesium powder can be safely used in the lamp. I make this statement because I have always been so told by men in whose authority to speak I have confidence, and not from my own experience, since I have not dared to use any of the compound powders for fear of accidents by explosion.

The continuous light from the lamp is preferable to the instantaneous flash of the cartridge, because the view is more evenly illuminated and the plate likewise more evenly exposed when a lamp is used: just as harsh contrasts result from snap-shots, whereas a time exposure under the same circumstances will yield an evener and more pleasing picture. This statement may be tested by making a picture of a group of people by flash-light. We all are familiar with the ghastly faces and unsightly shadows when a cartridge has been used, but try the continuous light from a lamp and see how round and natural the faces will appear; and if this be so with faces, why not also in the details of a room?

Non-halation plates must be used when a window or open door is to be included in the view, and if there be lots of light in the room so that a comparatively short exposure will suffice, the non-halation qualities of the plate will obviate the halo of light around the window. But if a long time be needed, say a half hour, my experience is that the protection afforded by the double-coated plate is not sufficient, and the neighborhood of the window comes out more or less foggy. I am not satisfied to overcome this trouble by waiting until evening to make a flash-light exposure, with the result that the open windows let a mass of inky blackness into the picture, but there is another way which I find to give charming effects. It is to darken the window by hanging a thick black shawl or other opaque fabric over it, on the outside if practicable, or the fabric may be placed on the inside, between the glass and the shade. Having made the exposure, cap the camera carefully, so as not to jar the camera. Next remove the shawl, being careful not to displace the shade or

LIBRARY INTERIOR.

Copyrighted by CURTIS BELL.

HALLWAY WITH GROINED ARCHES.

Copyrighted by CURTIS BELL.

any other detail of the view, and then make a second exposure of perhaps four or five seconds, which will be sufficient with the strong light which enters through the window. The finished picture will not only show the inside of the room, but will let us look out through the window and see the trees and grass, a beautiful little picture within a picture.

The other pictures, those which hang upon the walls, will give trouble from the patches of light reflected by their glasses. This blur of light may be removed by changing the position of the picture slightly with the aid of a match or wad of paper placed behind a corner of the frame. I have noticed of late that some of the book illustrators are showing these reflections in their pictures, but this is a bit of realism which I think will not appeal to photographers.

Mr. Curtis Bell has been fortunate in having handsome rooms to photograph, the four views accompanying this article being in Mr. Whitelaw Reid's New York house. These big, rich interiors would seem to inspire one to produce stunning negatives, and Mr. Bell appears to have got all there was out of his views.

It will be noted that the mirror over the mantel in the dining-room pictures the scene opposite, and it may be pertinent to observe that the camera has been placed at such an angle as to escape representation in the mirror.

The library furnishes the text for another hint to the inexperienced operator. This is the difficulty of focusing the different planes. With the lens wide open it will be found that the nearer objects and those in the distance cannot all be brought into sharp focus, so the middle

MUSIC ROOM.

Copyrighted by CURTIS BELL.

DINING-ROOM.

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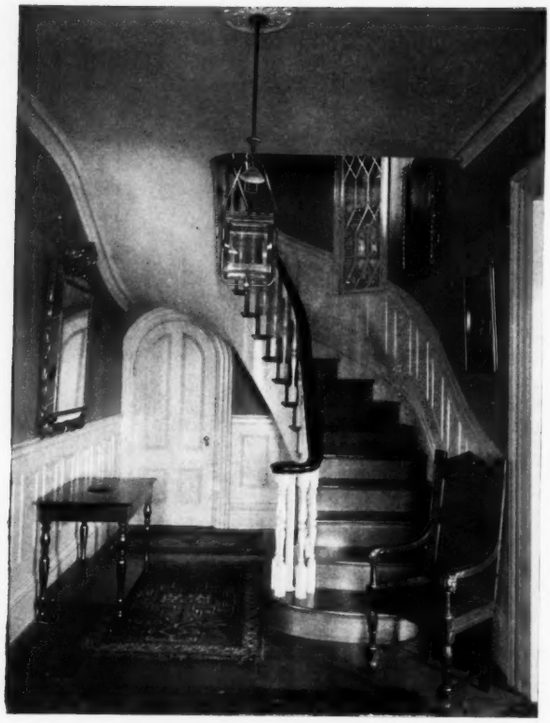


HALL AND STAIRWAY. By H. W. Taylor.

distance may be focused and then the smallest diaphragm inserted, when it is to be hoped that the whole view will become sharp. However, the illumination of the ground glass will be so slight with the small stop in that it is well to place lamps or candles in different parts of the room, and to make sure that everything is in sharp focus by noting the degree of clearness with which the lights are seen. The test of the focus is on the edges of the plate, where the Venus is seen in this view, or the books on the extreme right. These negatives are the result of long exposure by daylight.

My own pictures of the colonial hallway and of the church were both done by daylight, with Seed's non-halation plates and a Euryscope wide-angle lens working at the smallest aperture which this lens affords. The hallway was exposed about half an hour and the church was done in fifteen minutes.

The windows in this church are of a light, stained glass, and the illumination is quite brilliant so that a shorter exposure was sufficient than would be required in an edifice wherein the light was more subdued.

I remember that snow was falling during the exposure for this picture, but I have a stronger recollection of ascending to the elevation from which the view was taken by means of a rude ladder affair between two partition walls. Rumor has it that the church sexton, a man of more goodly proportions, once spent some time between these same partitions, until his cries brought assistance to squeeze through. But then, he was not there in the service of art. In fact I don't know why he was there anyway.

The Catatype, an Epoch-making Photographic Discovery

FRANK R. FRAPRIE

IT is now more than a hundred years since the discovery of the remarkable effects which some substances appear to produce in certain chemical reactions by their mere presence. The quantity of these substances does not change, and they are not used up, but only when they are present does the reaction occur to a measurable degree. The first case of this kind was observed about a century ago by a German apothecary named Kirchhof. It was the change of starch into sugar by boiling with dilute acid, a process which now finds widespread technical application. Many other such reactions were soon discovered, and Berzelius named the process catalysis. Although many attempts were made to solve the riddle, no explanation of catalysis was found. In recent years it has been one of the favorite research fields of physical chemistry, and notably Professor Ostwald and his scholars at Leipzig have studied the phenomenon with such success that most of our present knowledge of the subject is due to them.

In 1901 Professor Ostwald said at Hamburg before the 73rd Congress of German Naturalists and Physicians: "That also in technical fields the scientific knowledge and mastery of catalytic phenomenon must have results at present undreamed of, is already evident from the chance applications of this process. . . . When one considers that the acceleration of reactions by catalytic means takes place without the application of energy, that is in a certain sense gratis, and that in all technical processes, chemical included, time is money, we see that from the systematic use of catalytic aids we may expect the most radical changes in technical chemistry." What is

here so clearly promised for the future, Professor Ostwald and Doctor Gross have now given us in the form of catatypy, by which name the discoverers designate their recently published process for manifolding without light photographic and other pictures in which the image consists of any of those substances which we designate as catalysers, such as silver, platinum, manganese dioxide, etc.

This discovery is designated by them as photography without light; but this is not quite exact, as the making of the negative is done as formerly in the camera on a silver-bromide plate. It is, however, not necessary that this should have a transparent support, such as glass or celluloid, since only the surface of the developed picture is afterwards used. When the photographer, however, has left the dark room with his negative, he no longer needs either to shun or avoid light, as all further processes are completed without its help or influence.

Of the numerous possible ways of reproduction by catatypy, we will give only one example. The completed negative is flowed with a solution of hydrogen dioxide in ether. After evaporation of the ether this leaves a uniform layer of dioxide. The silver of the image immediately attacks this, and causes a catalytic decomposition into water and oxygen in all places where silver is present, while hydrogen dioxide remains where silver is absent. Thus an invisible "image" of hydrogen dioxide is formed. By contact and pressure this image is transferred to ordinary paper in a few seconds or minutes, and can then be developed in manifold ways, for instance, with a solution of ferrous sulphate. This gives a weak iron image, which can be colored blue by red prussiate of potash, violet by gallic acid, greenish-black by pyrocatechin, or many other colors by suitable reagents. As may be seen with the lens, this image gives all the details of the negative in their original sharpness. Since many of these colors are exceptionally stable (the gallic acid picture consists of ordinary ink, which is well known to be stable for centuries), the question of the instability of the print is excluded from consideration.

This process serves only as an example, for it is merely one of hundreds which are possible. The discoverers have amused themselves by making catalytic prints from pictures by every known photographic process, including half-tone illustrations printed in ink, and have succeeded in every case. This is natural, for all processes used in photographic printing are applications of reactions which run to an end by themselves, and are merely hastened by the action of light, the speed of which can therefore be increased by catalysers; and there are besides a much greater number of substances and reactions which act catalytically than of those which are influenced by light. Simultaneously in all cases an extraordinary simplification of the operations occur; for example, on commercial carbon tissue, without any sensitizing, a print ready for development in warm water can be prepared in two minutes.

The results of this discovery can at present be but imperfectly anticipated. We may infer that there are but few reproductive processes which

OUTWARD BOUND. By Dr. C. H. Gardner.

Taken at 6 P. M., in bright sunlight, with R. R. Lens.
Stop F: 16 and 1-25 sec.

will remain unaltered, and also that many new applications are in prospect. These depend on the fact that the preparation of a negative for catatypic use costs no more than that of an ordinary bromide enlargement of the same size, and that for its reproduction no costly materials or machines are necessary. So artistic, scientific, and technical prints of a size and cheapness hitherto inconceivable become possible. Probably, also, the problem of large three-color prints, at present so much agitated in photographic circles, will receive an unexpected and welcome solution.

In most inventions chance plays the greatest part, but here is a discovery which is a genuine child of science. Professor Ostwald and Doctor Gross are therefore doubly to be congratulated, for seldom has a problem been so clearly defined, and very rarely are the scientific results of an investigation into the secrets of nature so brilliantly useful technically.

The Apostle Camera

C. H. CLAWDY

A FRIEND of one of our contributors walked into the editor's office the other day with a request that we give our attention to what he called an "Anti-camera crusade." He informed his patient auditor that his small son had lately become possessed of "one of those devilish kodak things," and now, by the great horn spoon, he wanted to study art! It was mildly suggested to the irate parent that sons have, on occasion, done worse things, but a muttered malediction was the only result. He did not give us time to tell him what we really thought of the matter, so we are going to do it now.

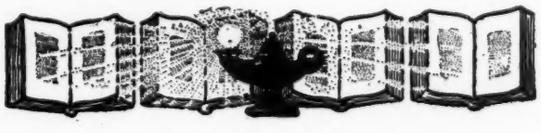
In our opinion, there is no greater factor to-day than the camera as a means of education. We do most emphatically believe that the closer man gets to nature the more he knows, the better citizen he makes, and the more competent he is to bear his part as a unit in the great machine — humanity.

And the camera is the thing that sends a man out into the country, that makes him walk and look — not walk and think about his business. It sends some of its devotees down close to the ground for insect pictures, others it makes climb trees for birds, to others it holds out inviting hands calling them where ocean breezes blow, and to one and all it exercises a fascination and a mysterious charm which breeds, often from nothing, an appreciation and love for the beautiful without which no one can truly say "I have lived."

In education, the camera is a bigger man than the superintendent of schools. Bringing far scenes to the text-book page for the edification of the child to whom pictures are everything, and print a to-be-avoided evil, telling a story in scenes from the North or South, and making real to little minds the difficulties and dangers which the explorers and the vanguard of civilization have to face, it is playing a part in the better education of mankind that may well require an admiration and a reverence but little second to that which the world pays to the inventor of letters and of books.

So to that dissatisfied father whose son of sixteen was so broadened that he knew his ignorance and asked for an art training, and to all that multitude of parents whose children use the camera to the alternate amusement and disgust of the household, we would commend a little educational reading, a subscription to a photographic magazine, and a careful repression of oppression of the camera. It does no harm, it does great good — it is not a waste of time,— it is an educational recreation, and, last but not least, it is not a "monomaniacal pursuit," but a broadener and deepener of the mind, and as such is to be encouraged and smiled upon.

Daguerre, Salutem! — The American Inventor.



AS THE SUN GOES DOWN.

The Three-Color Photographic Process

DAY–BAKER

EDITOR'S NOTE. — In our June, 1902, issue we published an article, by Mr. Day-Baker, entitled "The Commercial Application of Three-Color Photography." The text was illustrated by a number of colored plates, produced by the process described. The subject proved so popular that our edition was exhausted, and we have had many requests for the reprinting of the article, or other papers on the same subject. That we might meet the demand of our readers, we requested the author to enlarge on his June article, illustrating in greater detail the interesting process. Of a necessity, portions of the previous article are repeated in this paper, in order that the reader may understand the fundamental principles of the process.

THERE has been and always will be a demand for illustrations in colors. The fact that colors more faithfully represent the subject portrayed was recognized centuries ago. The Egyptians, as early as 2000 B. C., executed pictures or carvings on the walls of the buildings, and on the sarcophagi or burial cases of their dead, and then colored them with pigments, which, in many cases, have endured to the present. From that time this desire for pictures, images, and designs in color, has continued, ever increasing as the years and centuries rolled by.

Did you ever notice the man at a news-stand looking for a book or magazine? He scans the list, opens two or three and hurriedly runs through the pages. If one of the publications be illustrated in colors, almost invariably it is the one purchased. This is an every-day occurrence. We all love colors — they attract; and whatever attracts has a commercial value aside from its artistic worth. The magazine and book publishers are realizing that the successful sale of their illustrated publications requires the introduction of color, and they are responding to this demand as fast as the state of the art of color reproduction will allow.

It is this incessant call for pictures, photographically correct, and in their proper colors, that has brought into existence the Three-Color Photographic Process. The chromolithograph has, until quite recently, been considered the only practical medium for the production of

Impression from Yellow Plate.

Impression from Red Plate.

Impression from Blue Plate.

colored illustrations. This process requires from seven to seventeen or more printings from stone, using as many colors and tones of ink. The drawings on these many stones are very expensive on account of the skill required by the lithographic artist.

We all know that the colors of the solar spectrum which we call red, orange, yellow, green, blue, and violet, can, by combination, or with the introduction of white, be made to produce any color or shade. Sir David Brewster announced the discovery of the fact that the primary or fundamental colors consisted of red, yellow, and blue; and that all others could be produced by combination. From a scientific standpoint this is a mistake, as no mixture of these colors will produce white. However, it is possible, by various combinations of these three colors, to make, with the addition of white when required, a sufficient number of colors and tints to produce illustrations of a high class, in which the colors approach closely those of the original.

It is not the intention of the writer to give an extended or technical description of the intricate operations necessary to produce the exquisite three-color work of to-day. It has taken years of hard work, constant study, and experiment, to bring the art to its present state; and while the results are wonderful and almost incomprehensible to the layman, they do not satisfy the enthusiastic colorist who is ever seeking his ideal. Improvements are constantly being made in the color screens or filters, the specially sensitized photographic plates, the lined screens for making the photographic impression of the color sensations into printing-plates, the chemical composition of the inks, and the presses for printing the plates. The technical description of the processes, their workings, and the theories advanced by the many workers in the fascinating art would make altogether too dry reading for this article.

Of the many experiments and processes introduced in this country, only two have proved to be capable of giving practical commercial results; and it is an open question if one of these does not really embody all the valuable features of the other. In this paper we will therefore only consider the inventions and experiments of Mr. Ives and Dr. Vogel.

In 1881, Mr. Frederick E. Ives, of Philadelphia, after much patience and experimenting, produced the first three-color process illustrations in this country, by means of what is now known as the "Ives Process." In 1885, he exhibited his method and results at the Novelties Exhibition of the Franklin Institute, Philadelphia. All of the Three-Color Photographic Proc-

Impression of the Red Plate over the Yellow Plate.

ess printing in this country to-day is done practically by an adaptation of the "Ives Process."

In 1885, Dr. H. W. Vogel, assisted by his son, Dr. Ernest Vogel, commenced his experiments at the Royal Polytechnicum in Berlin, Germany; and a few years later was able to produce, by photographic and printing processes combined, very successful reproductions of paintings and still life in natural colors. This method was brought to this country in 1892, by Mr. William Kurtz, of New York City. This process has since been known here as "The Kurtz Process."

Both of these trichromatic, or three-color processes depend upon the photo-mechanical division of the light reflected from the article or painting to be reproduced, into the three primary or fundamental colors, — yellow, red, and blue. This is done by photographing on three separate plates that have been especially prepared so as to be sensitive to the rays of each color, and, during the exposure, cutting out all rays but those of the desired hue, by means of screens or light filters, interposed between the object and the photographic plate. In making the negative of the yellow values, a screen composed of red and blue coloring matter is used, termed a violet filter; for the red values — a green fiter (yellow and blue); and for the blue values, an orange filter (yellow and red).

Wonderful as it may seem, it is a fact that these plates not only take the three primary colors as they appear in the original, but also such portions as enter into combination with other colors to make the various tints.

After the negatives representing these three primary colors have been obtained they are used for making reversed photographic prints of each through a lined screen, on previously sensitized copper. The copperplates are then etched, leaving only those parts designed to convey color of the original height of surface. This transforms the values of the three-color negatives into copper printing-plates.

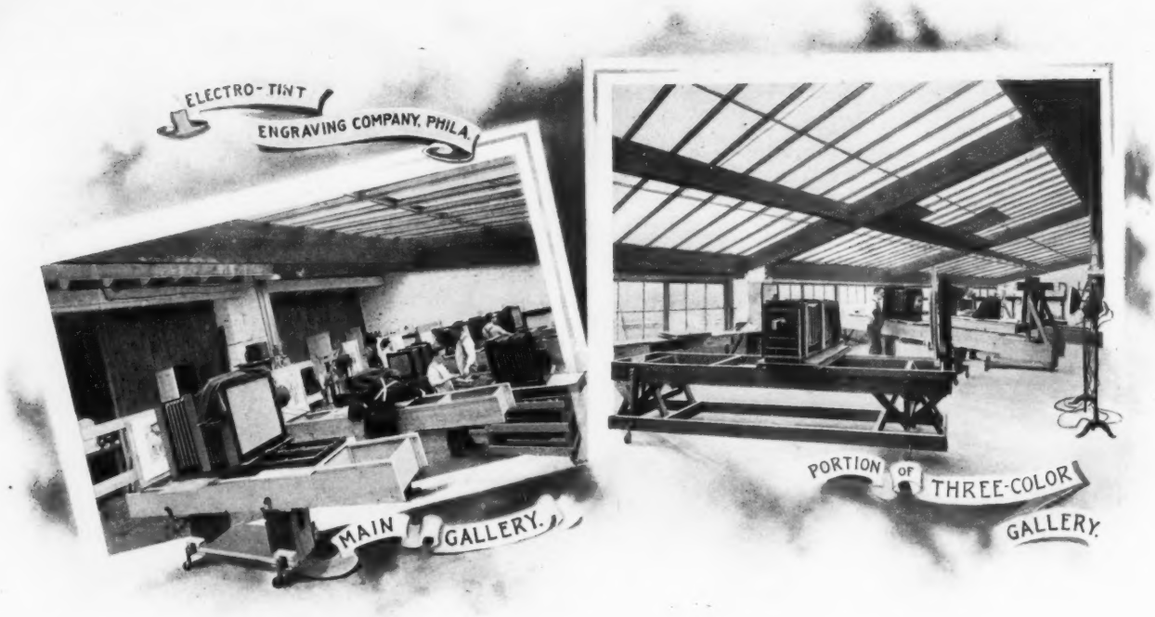
These plates are proved and re-etched to obtain artistic and good printing values, and are then turned over to the letterpress printer who can now make reproductions in the original colors in almost unlimited quantities.

In connection with this article a variety of illustrations are given. For the purpose of making this paper clear, colored proofs of the three separate color-plates, as described above are shown; an example of the red plate printed over the yellow; and a completed print of the three colors; all of the same subject. These plates are printed in practically the same manner as magazine illustrations, except that three printings are required. First, the yellow plate is printed, then the red, and lastly the blue; this completing the picture in all its natural colors.

The printing of the color-plates is almost an art by itself. No careless printer can produce satisfactory results. The work of the artist photographer and plate-maker must be supplemented by the careful and skilful labor of an artist printer. As the plates reach the press-room from the hands of the photo-engraver they are thin copper slabs, covered with the finely etched engravings, which seem like a mere breath on the highly polished surface of the metal. These plates must be applied to a block to make them the proper height for the printing-

COMPLETED PRINT.

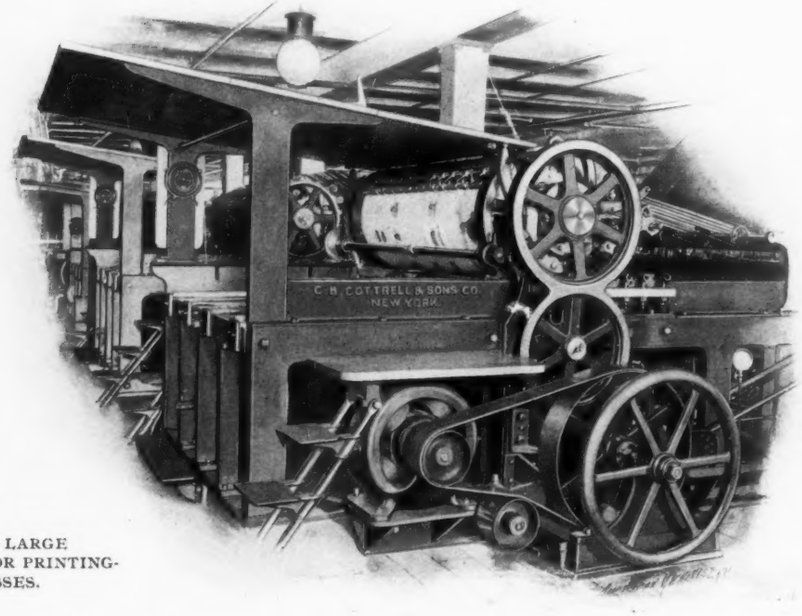
Impression of Yellow, Red, and Blue Plates combined.



press. The most approved way consists of securing them by adjustable catches or hooks to a solid metal base; as by this method each individual plate can be moved to the proper position so that the colors may be superimposed exactly over each other. The "make-ready" of the printer, which is the method of bringing out the full color value of the plates to be printed, must be most thorough for each color, in order that none of the artistic qualities of the print may be lost; and the work of the printer must be mechanically correct as well, in order that the plate, with its delicate tracery, may without wear give a large number of impressions. The amount and color of ink must be very carefully watched, as a variation in the supply will surprisingly affect the finished product. Care must be taken with the paper before and during the printing process, in order to prevent it from stretching or shrinking; either being fatal to good work.

In order to produce an artistic and practical result, each step of the process must be executed with fidelity and skill: most accurate plates, artistic etching, the best paper, the most transparent ink are required; and last and most important the printer must possess printing-presses that "register"; that is, the machine must be so accurately made and adjusted that when a sheet of paper is printed a number of times, the lines and dots of an illustration will fall in exactly the same place on the sheet each time the paper is printed, or run through the press. Errors in photographing and engraving can, in a measure, be corrected; but should the press fail to register, all the skill of the photographer and engraver is lost.

Some idea of the versatility of this process can be formed when it is stated that all the subjects on the eight pages of this article were printed on one sheet, in three printings, using only the three fundamental colors.



THE LARGE COLOR PRINTING-PRESSES.

"ZENOBIA."

Made direct from Oil Painting by Three-Color Photographic Process
by Electro-Tint Engraving Co., Philadelphia.

The practical application of the three-color process is almost unlimited: exquisite book and periodical illustrations, cover designs, calendar headings; reproductions of paintings for commercial purposes, interior decorations, groups of merchandise, bird life, etc., can all be made.

Portrait work has not been practically accomplished by this process, but it is one of the features that will undoubtedly be solved by some persistent photographer. Our German coworkers have already produced landscapes that are remarkable, not only for the exquisite detail they possess, but for the wonderful colorings. In these three-color photographs the trees, the buildings, the water, the sunlight and shadow, are all depicted in such realistic stereoscopic effect that one could almost imagine himself viewing the country shown on paper.

EVENING ON THE COAST.
From Oil Painting by Three-Color Photographic Process.

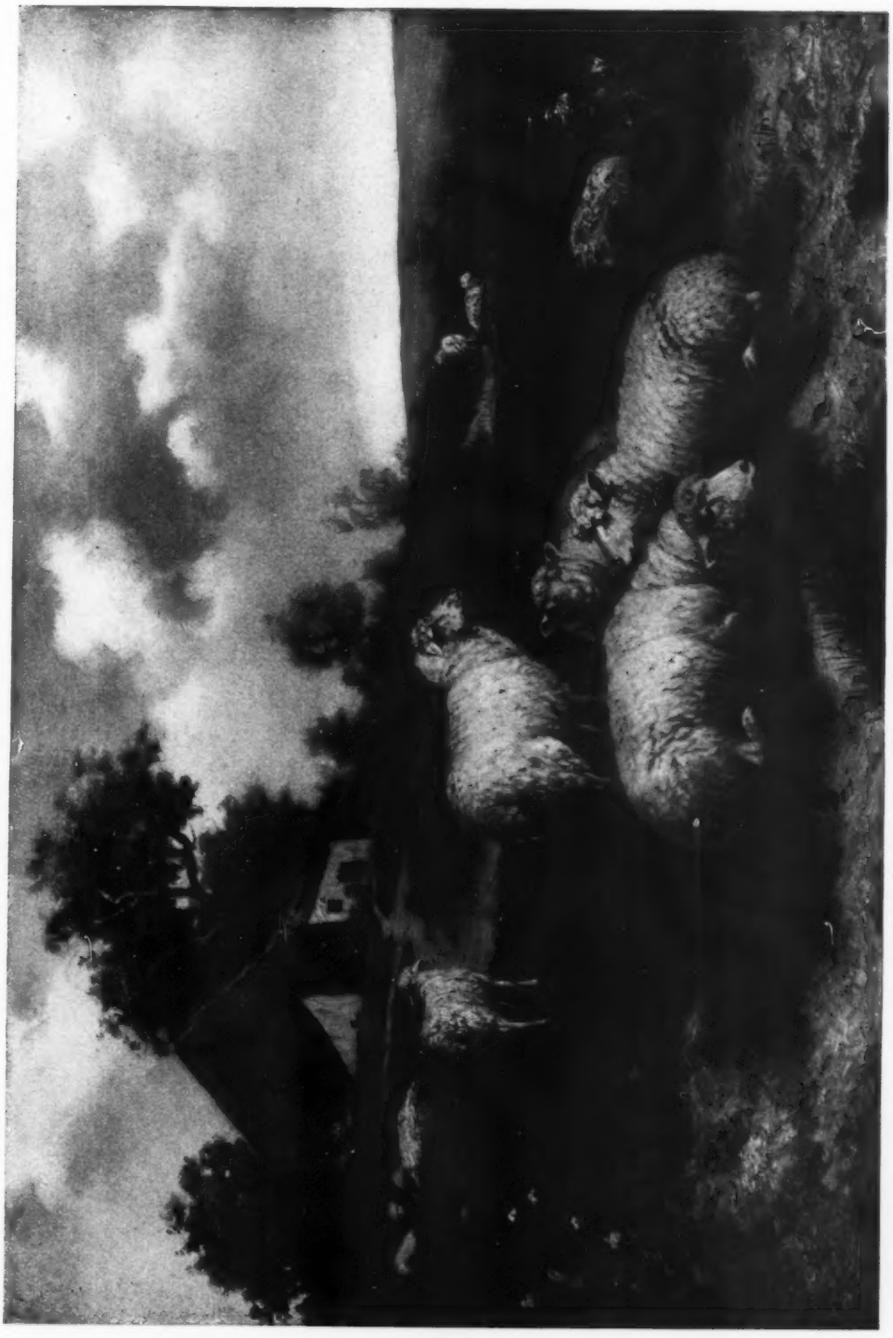
Perhaps one of the widest fields, and one which will most interest every merchant, is its adaptability to the faithful representation of all his goods on paper, photographically correct and in their proper colors.

As yet, comparatively few merchants and manufacturers comprehend the advantages of this new art for the purpose of illustrating and selling their goods. Some have been progressive enough to realize its possibilities, and are urging the photo-colorist to the reproduction of all classes of goods by this process. Some of these adaptations may be novel to the reader and may suggest the availability of this art as applied to the particular business in which he is most interested. As an example: how could a manufacturer of wall-papers better show the possibilities of his goods for decoration than by well-printed colored photographic reproductions of various rooms covered with papers of his manufacture?

Could the manufacturer of artistic colored and iridescent glassware better tell his customer at a distance what wares he has to offer, than by sending a catalogue in which the goods are correctly shown, resplendent in all their glistening colors.

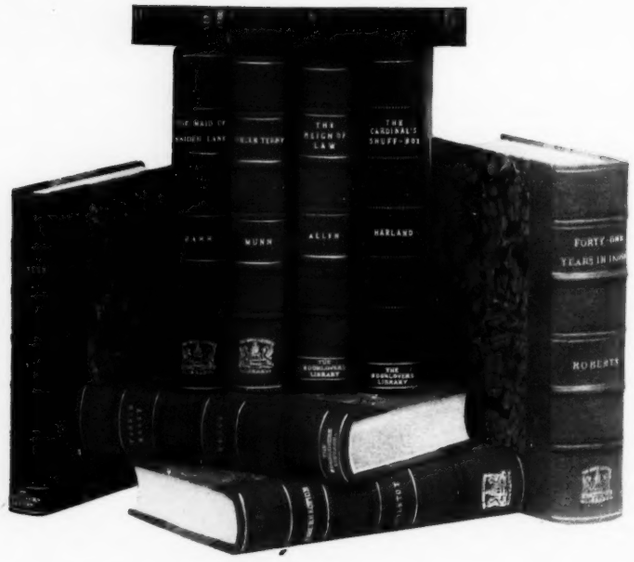
And the weaver of carpets and rugs — think of the possibilities for the display of these goods in color. At the present time this especial line of illustrating is well advanced, and faithful representations of all classes of floor coverings, curtains, draperies, and tapestries are in everyday use.

The manufacturer or dealer in clothing can not only show figures representing the cut, style, and tone, of the garments; but he can at the same time show colored prints of the goods,



ON THE FARM.

From Oil Painting by Three-Color Photographic Process by Electro-Tint Engraving Co., 1227 Race Street, Philadelphia, Pa.



BOOKS. Photographed direct.

giving the full size of the pattern, the color, weave, and texture of the cloths; all faithfully portrayed.

Sporting goods can be accurately shown, even to the exact reproduction of the most delicately colored flies used by the particular fisherman.

The book publisher can not only use the process for the purpose of illustrating the text of the volumes, but he can show on paper the exact style and colorings of the bindings.

The dry-goods dealer, the glove manufacturer, the ribbon weaver, the milliner, the corset maker, can each have his goods faithfully depicted in all the delicate shades and colorings which attract the eye of the customer.

The examples of Three-Color Photographic Process engraving used in illustration of this article were made by the Electro-Tint Engraving Company of Philadelphia. In justice to them it should be said that none of these illustrations were made for this article, but are "stock" subjects, selected from their catalogue.

The printing of these engravings was done at The Sparrell Print, Boston.

MOTH. Photographed direct.

A Device for Thoroughly Washing Photographic Prints

AUSTIN K. HANKS

THERE are numerous devices on the market for washing photographic plates and prints. Perhaps the greater number of amateurs possess some sort of a plate-washing box. These, as a rule, cannot be used for prints, so the amateur resorts to a couple of trays, or the lavatory. The latter, while it may do to a certain extent for small prints, from experience is by no means satisfactory. The ones which have the overflow at the top, the water which also always flows in at the top, do not carry off the heavier chemicals and sediment at the bottom. As is natural, but by no means what we should like, the prints also lie, one upon the other, at the bottom.

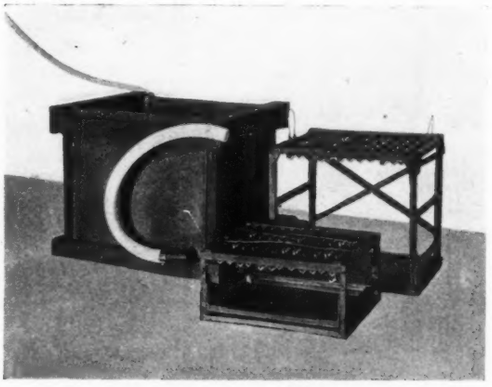


FIG. I. Showing tank and frames complete.

The other kind, which has a patented combination stopper and overflow, is better than the former in that when the water gets to a certain level it overflows at the bottom, but it is also unsatisfactory, as when the water is allowed to flow with sufficient force to keep the prints in a slight motion, the suction of the overflow very kindly draws a print over it. In a short time you hear water flowing, or rather overflowing, and upon investigation you are surprised to find considerable water on the floor. This has happened to me several times.

The method of washing by changing the prints, one after another, from tray to tray, filled and refilled with fresh water, is so slow that to do it properly would require the patience of Job.

The ball-shaped tanks which are sold for this purpose (I do not speak from personal experience, but from the experience of a friend who has one) invariably whirl the prints around and crack the emulsion.

In an article in the Christmas PHOTO ERA, there was this: "Discontent is the leaven which has raised the whole dull loaf of humanity to such betterment as it has attained." This I sincerely believe to be true, to a great extent, and very much so with me in this instance. Discontent led me to think upon what could be gotton up in this line that would be satisfactory.

After experimenting and trying several different ways I finally concluded to construct the device herewith described and illustrated, which has indeed given entire satisfaction, to the writer at least.

In passing, would say to my fellow amateurs who are at all handy with tools, although they may feel discouraged after reading this article, and somewhat dubious about constructing one, they will find that after doing so, the amount required will be well spent and that they have been well repaid for the few evenings' work given to it. Also that it will be a good and well-paying investment and not nearly so great a task as had been anticipated, but rather a pleasure. I for one thoroughly enjoy constructing various things for this and other purposes.

The device is not claimed to be perfect, nor a patent medicine which will cure everything and suit everybody's ideas. The great difficulty, alas, one of the great faults, with amateur work is improper washing. To the worker who is truly in earnest and enthusiastic nothing is too good, nor anything too much trouble to improve his photographic equipment. Thorough washing is essential for good work, and it is claimed for this device that it does wash prints, large or small, *thoroughly*.

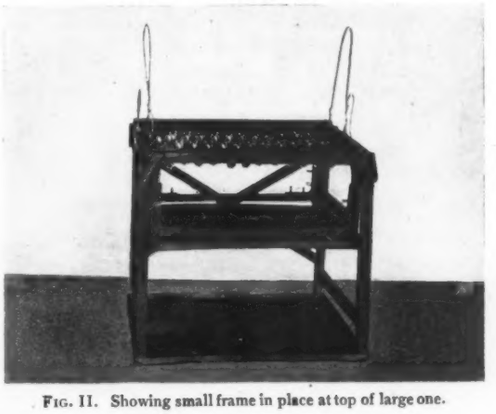


FIG. II. Showing small frame in place at top of large one.

The device is not at all intricate, but rather to the contrary. As shown in Fig. I the entire outfit consists of a zinc tank and two frames, the smaller one fitting or sliding into the larger one at the top and drawing out at the bottom. The whole (both frames) fitting inside the zinc tank when the prints are being washed and drawn out, set aside in any convenient place (without touching the prints) to dry as shown in Figures IV and V. This does away with the trouble of handling the wet prints, which ordinarily would be taken, one by one, out of the wash water and either hung up or placed between photo blotting-paper to dry.

As before stated, it is very simple both in construction and operation. As shown in Fig. I, a zinc tank, 16 in. long, 14 in. wide, and 15 in. high, holds the two frames, either separately or together. The zinc tank and two zinc pans at the bottom of the frames were made by a plumber; very likely these can be made better by such a person than by yourself.

Zinc is rather thin to stand the pressure of water, so it is necessary to construct a support around it. This is done with 1 x 2 in. pine lumber; having three strips across the bottom, two entirely around the outside, and three perpendicular at each end. The joints or ends of the various strips are held with 2-inch screws. The number of screws stated in the list is not more than one half needed. A pointer as to the cost of screws will doubtless be of service. About six dozen are needed, which, at the dozen rate of five cents, make a total of thirty. If purchased by the box you get the gross price of twenty-four cents; so that you can get a gross for less than you pay for six dozen.

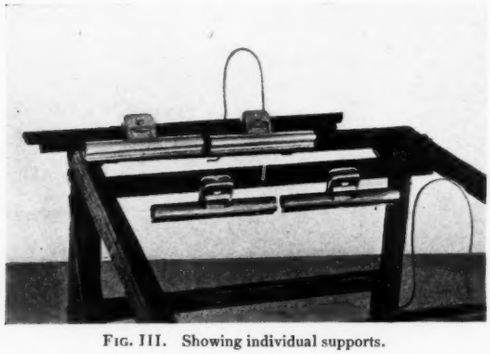


FIG. III. Showing individual supports.

The tank has a ½-in. inlet at the top, connected with three feet of ½-in. rubber tubing, the other end of which is placed on the end of a faucet when in use. At the bottom is a 1-inch outlet connected with two feet of 1-inch rubber tubing, this being fastened near the top of tank so that it will overflow when the water is ½ in. from the top. Thus the water flows in at the top and out through the bottom.

Both frames are made of ½-in. North Carolina pine flooring, sawed into ½-in. strips. This is a good wood for this purpose as it is quite hard, and, when painted, withstands the water very well. The large frame is 13 in. high, 12 in. wide, and 14 in. long, outside dimensions.

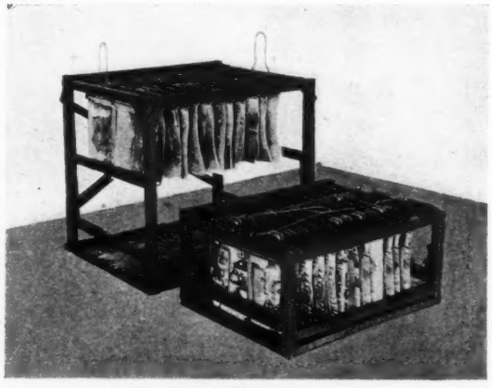


FIG. IV. Frames filled with 4 x 5 prints.

The reproductions illustrate the entire construction so well no diagrams are needed. It is supported, or strengthened, on the sides by two strips; also at the back by a cross. The four lower corners or feet are screwed to a zinc pan 12¼ x 14½ in. with a ½-in. edge turned up. The upper corners are made solid by six pieces of wood ¼ x ½ x 2 in. on the outside; also by heavy copper wire which is tightly drawn through holes burnt with red-hot nails. This is quite necessary, as you can neither bore holes nor drive screws in the ends without splitting the wood, and the fine nails which can only be used to hold the corners in place are not large enough to secure them properly.

The two top strips each have a series of twelve grooves ⅜ x ⅜ in. each; the back strip being covered with a strip ¼ x ½ x 14 in. These hold the ends of the individual supports for the prints. The individual supports are of the same wood ¼ x ½ x 11⅜ in. each; with a small piece sawed out of each end ½ in. deep and ¼ in. from the top. These ends fit in the little grooves as shown in Fig. III. Each support is furnished with two of Eastman's 3½-in. clips made for developing films. These hold or suspend the prints individually while being washed in the water, also as shown in Figs. IV and V when being dried.

The clips are wired to the individual supports with brass wire, running through three holes; one in the middle and one on either side of each clip.

The clips are nickel plated, so will not rust. They will probably seem expensive at two for twenty-five cents, but when the total cost is compared with manufactured articles it is indeed reasonable.

The small frame is for double capacity of 5 x 8 or smaller prints. It fits snug into the large one, sliding in at the top and out at the bottom. The outside dimensions are 10¾ x 12¾ in., and 6 in. high. The zinc pan is the same size, with an edge turned up ½ in., and is screwed to the legs in the same way as the large one. The four upper corners are wired together with heavy copper wire, running through holes which have been burned in. The two long upper strips each have a series of twelve holes ⅜ in. square; the back one being covered with a strip ¼ x ½ x 12¾ in. The twelve individual supports are the same as the large ones, except that they are only 9¾ in. long. They are also furnished with two clips each.

The four supporting strips near the base have a small galvanized iron brace in each corner. These are secured by four screw-eyes in each.

On each upper side strip there are two screw-eyes, through each of which run the ends of a piece of heavy copper wire, thus forming a handle which extends 7 in. In the middle of each strip is an oblong button, so that when the frame is in use (in the tank) the small frame slides down in the top of the large one (the large individual supports being all removed), and by turning the buttons crosswise the two tops are at the same level. When we wish to wash a number of prints smaller than 5 x 8, the small individual supports are at the top; the prints being placed, one by one, in the clips until filled. Then, by turning the two buttons parallel with the strips, the small frame is lowered by the two 7-in. wire handles. Then the process is repeated with the large individual supports which fit in the large frame itself.

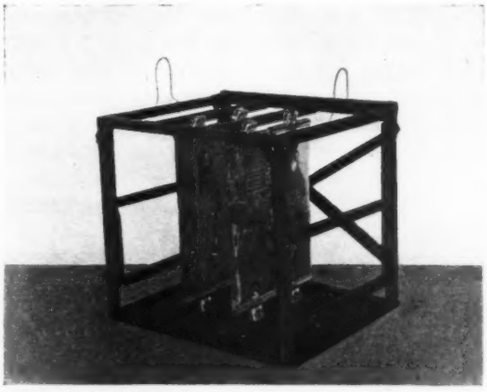


FIG. V. Large frame containing two 8 x 10 prints.

The large frame also has a handle at each side, formed of the copper wire. These are used to lift the entire frame out of the water when through washing.

Both tank and frames (except the clips) are painted with a superior quality of black paint especially prepared for use on metal and to withstand the water.

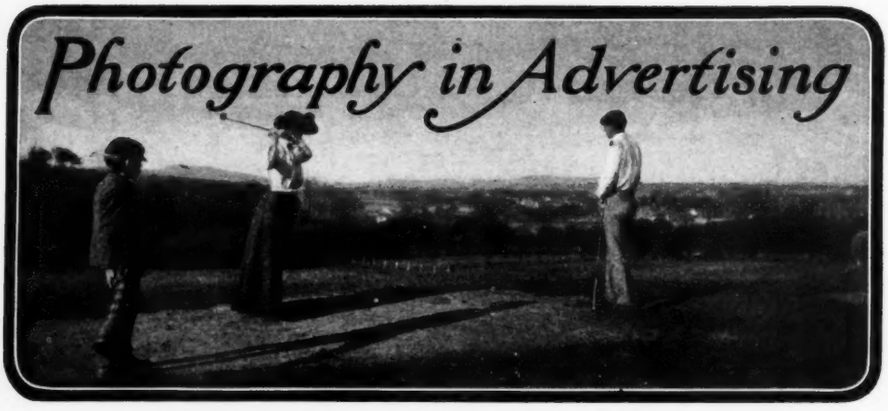
The entire outfit is now complete. The necessary articles and cost are as follows:

32 ft. North Carolina pine flooring,	$0.30
48 Eastman's 3 1-2 in. film developing clips,	6.00
10 yds. brass wire,	.10
1-2 lb. heavy copper wire,	.05
3 doz. screw-eyes (1-2 in. heads),	.12
8 galvanized iron braces,	.09
2 buttons,	.02
2 zinc pans,	.40
Zinc tank,	1.10
3 ft. of 1-2 in. rubber tubing,	.30
2 ft. of 1 in. rubber tubing,	.50
32 ft. of 1 x 2 in. pine lumber,	.18
1 gross 2 in. screws,	.24
1 quart black metal water-proof paint,	.75
Total cost,	$10.15

The great advantage of this tank is its adaptability to washing various sizes. You can wash twelve 8 x 10 prints or paper negatives at one time without any fear of their rolling up or being injured in any way, as when 6½ x 8½ up to 8 x 10 are washed the individual supports of the small frame are clipped to the bottom of the prints, thereby suspending each print and holding it perpendicular. In all cases each print is hung individually, so that nothing, except the water and the clips which take about ⅛ in., touches the face or back of the prints, and thorough washing is guaranteed.

A larger or smaller tank and frames can be made if wanted, but where 8 x 10 is the maximum size this outfit is about right. Its capacity is: twelve 6½ x 8½ up to 8 x 10; twenty-four 5 x 7 or 5 x 8, and forty-eight 4 x 5 or smaller, at one time.

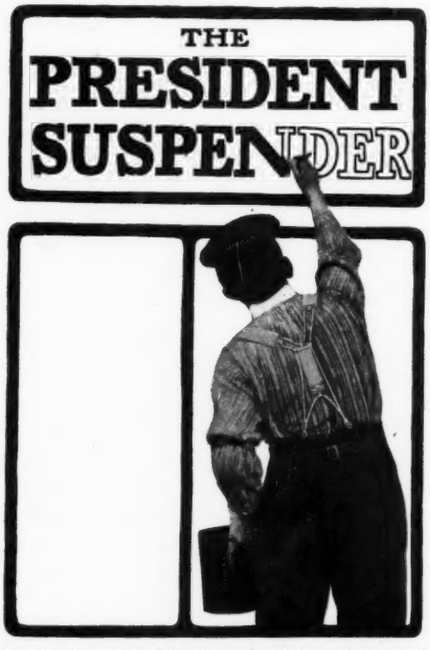
When the prints are washed the frames are removed from the tank and set aside in any convenient place to dry (without touching a print), as shown in Figs. IV and V, except where they are Solio and are to be dried on a squeegee plate. The convenience of drying in this way is excellent, especially where one is using Velox, Platinotype, or other mat surface paper, as when the prints are in the open air they dry quickly and, being in a perpendicular position, their drying free from dust is insured.



(*Continued from Last Month.*)

THE advertisement has proved to be *attractive*, which is the first step. It must now go farther and *interest* the reader. And it will accomplish this result if it is pleasing, appropriate, and *true to life*. The last characteristic I believe to be very important, and it is here that the camera plays a star role. In no other way than by photography can real true-to-life pictures be satisfactorily produced at a moderate cost. It is the only practical method of securing such effects in advertising, and therefore it deserves favorable consideration by the advertiser. Now, having attracted and interested the reader by means of the design, it is reasonably safe to assert that in nine cases out of ten he will want to know something about the advertiser who published the picture and the goods that it illustrates. Accordingly, he proceeds to read the text, and if this has been prepared in the right way, with a sincere and convincing ring, he is pretty sure to be favorably impressed and to entertain a friendly feeling toward the advertiser. He may not need the goods at the moment, but when he does he will remember the design and the advertiser. Thus the space is made profitable.

"It is not necessary, however, for the text to do all the convincing if the design is what it ought to be, and here again photography becomes a valuable factor. For since this is really the only method by which nature or natural objects can be depicted in a manner that is absolutely true to life, it follows that a photograph is the most convincing kind of a picture that can be obtained, and that the prospective purchaser can be most readily influenced by means of a photograph. It shows him the article as it really is, enables him to determine whether or not it is what he wants, and is altogether far more effective than the picture (necessarily inaccurate) made by an artist, or the simple type display that can do nothing but describe. Hand a man or woman who desires to buy a certain article three advertisements of the article — one presenting it by means of a drawing, another by means of a photograph, and the third merely describing it in type. I'll risk the assertion that the first and last will be laid aside, while the photograph will be carefully studied. You see, there's something fascinating about a good photograph,



Suggestion for Suspender Advertisement. Photographed and designed especially for *Profitable Advertising* by Samuel L. Busha, and protected by the general copyright.

because the reader knows that it isn't a figment of the imagination, but a true delineation of people and things that actually exist — that it is *taken from life*. And if the photographer is clever, he can add to this fascination by making the picture tell a story in which the article advertised figures prominently.

"I doubt if there are any, certainly there are very few, articles that cannot be attractively, interestingly, and profitably advertised by means of photographic designs. In the hands of a man who has good ideas on the subject, their advantages can be brought out strongly, and if, as I just said, the designs are made to tell a story, so much the better. True, in the untouched photograph there are details that may not show up well, owing to mechanical imperfections in the making of photographs; but a few skilful touches of an artist's pen or brush will remedy this difficulty, and the result will be most satisfactory from every standpoint.

"To illustrate my idea of photographic designing, glance at this advertisement, which appeared in the November magazines. You will note that it exploits floor wax and is illustrated solely and exclusively with an ordinary and uninteresting picture of a can of the wax located in one corner. Now, how much more attractive, interesting, and convincing it would have been had a good photograph of a well-waxed floor in a neatly furnished home been used. The picture should show the reflections of the furniture in the polished surface and suggest the actual beauty of such a floor. Moreover, if a figure or two were introduced, the scene could be made still more attractive. Would not a person seeing such a photograph be more likely to conclude that the wax is good stuff than he would by basing his judgment solely on the can? The buyer of floor wax isn't interested in the can, anyway. He wants to know something about the contents of the can — how it works and what sort of effects it actually produces. If he is convinced that the article itself is all right, he won't worry about the appearance of the can it comes in. True, the text will tell him a great deal about the merits of the wax; but even poor wax can be described in very glowing terms. With the photograph before him, however, he has something tangible to hang his conclusions upon, and he is likely to be impressed and convinced. I might mention a dozen or more other cases to which the same criticisms apply, but it isn't necessary. Everybody who knows anything about advertising can see the point, and make their own applications. I will say, however, that if good photographic designs were more generally used by advertisers, there would not be so much space wasted.

Suggestion for Dentifrice Advertisement. Photographed and designed especially for *Profitable Advertising*, by Samuel L. Busha, and protected by the general copyright.

"A field in which the camera is particularly valuable is in advertising all kinds of outdoor articles — firearms, bicycles, automobiles, golf and tennis goods, etc. These things are not necessities of life, and it is not enough to hold forth on the advantages of a certain brand. That is all right for those who already use such goods, and who may be influenced to pin their faith to one make. But we must remember that there are thousands of people who do not use them, and it behooves the advertiser to make strenuous efforts to reach the hearts of this class. In order to achieve this end, the first requisite is to awaken interest in the various sports for which the different articles are intended. Many people who never think of hunting, automobiling, or golfing can be converted if the right methods are used and their interest is effectively appealed to. This may be done by photographs — not mere photographs of automobiles, or guns, or golf sticks, but pictures that show attractive scenes

in which these articles figure, and that suggest the fun they miss who do not participate in such enjoyments. Pictures of this sort will frequently arouse beholders to a high degree of enthusiasm, and the result will be decidedly profitable to the manufacturers. Who can look upon a series of first-class hunting scenes without experiencing a desire to become a hunter? Or who is likely to withstand a series of golf pictures in which young men and women are shown

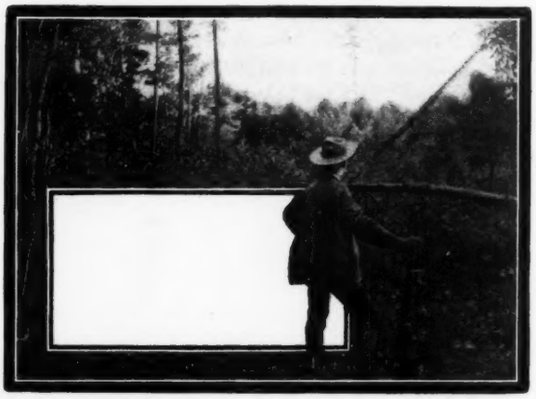
Suggestion for Liniment Advertisement. Photographed and designed especially for *Profitable Advertising*, Samuel L. Busha, and protected by the general copyright.

in attitudes and with expressions suggestive of the joy of living? Such pictures are the ones that exercise an almost irresistible influence over any person with a spark of sentiment.

"I want to emphasize the desirability of having advertising designs show the article *in use*. No matter what it may be, apho tograph depicting it in actual use is most likely to attract, interest, and impress the reader. There is nothing so superlatively attractive or convincing about most articles as to make a simple reproduction of them the best kind of an advertisement; but put that article into the hands of the proper person and it becomes an object of inter-

Suggestion for Rifle Advertisement. Photographed and designed especially for *Profitable Advertising*, by Samuel L. Busha, and protected by the general copyright.

est. Of course, it is also necessary to see that the person is posed correctly, that his or her expression is what it ought to be, and that there is nothing to indicate that the scene was composed for the special purposes of the photograph. Everything must be natural and lifelike, with as much action as possible, and the result will be a photographic design that for real advertising value cannot be duplicated by any other method of picture-making. It will show



Suggestion for Rifle Advertisement. Photographed and designed especially for *Profitable Advertising*, by Samuel L. Busha, and protected by the general copyright.

the article as it appears when *in use*, and not as it appears when posed to have its picture taken."

Foreign Abstracts

Thiocarbamid Toning-bath Acid gold toning-baths, which keep far better than neutral or alkaline baths, but tone very poorly, give good results, according to Valenta, when one employs Helain's process. This consists in adding thiocarbamid to a gold chloride solution containing sodium chloride, and acidified with tartaric acid (or citric acid in the case of celloidin or aristo paper). The toning depends on the fact that gold chloride forms with thiocarbamid a colorless double salt $(CSN_2H_4)_2$.Au Cl. This salt is acted upon by metallic silver, which replaces the gold. This bath is to be preferred to the sulpho cyanide bath, as it is not poisonous. Preparation: a solution of 1 gram thiocarbamid in 50 cc water is added to 25 cc of 1 per cent gold chloride solution, with continual shaking until the precioitate first formed is redissolved; then half a gram of citric or tartaric acid is added, the whole diluted to 1 liter, and 10 grams of sodium chloride are added. (Phot. Corresp., 1902: 650).

BACK TO THE OLD HOME. By H. W. Taylor.

Studies on Alums Not only ordinary alum, but also iron and chrome alum are known to possess the property that they can be treated with considerable quantities of alkali before a precipitate of metallic oxide is formed; chrome alum, besides, has the peculiarity of forming a completely insoluble compound with gelatin. Lumiere and Seyewetz have sought to ascertain, in the first place, what quantities of alkali are necessary to form a permanent oxide precipitate, and secondly, what are the most favorable conditions of operation to obtain the most complete insolubility of the gelatin. On the first point they found that with ordinary or iron alum enough alkali has to be added to separate one molecule of sulphuric acid from the alum, while with chrome alum, according to the temperature, one of two basic chromium sulphates is formed. As to the insolubility of the gelatin, they found that the best results were obtained when the alum solution is treated with alkali until a weak, but permanent precipitate is formed. (Bull. soc. chim. Paris, (3) 27: 1073).

Silver-Germ Theory of Development The view that light acting on the gelatino-bromide film produces direct germs of metallic silver, has been again brought forward in the course of recent discussion as to the nature of the latent image, and a silver sub-bromide of some indeterminate composition has been assumed as the germ substance which is first reduced to silver at the moment of beginning

development, and then after the analogy of physical development determines the separation of more silver out of the supersaturated solution. A new method which appears to prove the correctness of the assumption that silver germs really do make chemical development easily possible is due to Luppo-Cramer. He finds that by bathing plates in neutral and ammoniacal silver solutions, a reduction of silver by the gelatin itself is accomplished, and thereby an actual contact of silver germs with the silver is obtained. Strips of dry plates were bathed in silver solutions of various concentrations, and after five minutes thoroughly washed. It then appeared, after three-minute development with metol-soda or iron oxalate that a developable action up to total opacity with the strongest solutions had been exercised upon the gelatin-bromide. This may be considered as a germ-action of the traces of reduced silver. The process of development of the latent image is thus no longer so purely hypothetical as it hitherto appeared. Solarization by germ-action was not observed either with neutral or ammoniacal silver solutions. The author does not believe that the ripening of the emulsion (increasing the sensibility by addition of or digestion with ammonia) is the beginning of reduction. (Phot. Corresp., 1902: 690).

The Riddle of Solarization Hand in hand with the reversal of the latent image there goes a considerable chemical change, which is already visible before development, and consists of a strong coloring of the silver bromide. This is caused by the formation of Carey Lea's photobromide, which is completely insoluble in concentrated nitric acid, but on simple fixing leaves a weak visible image which is completely soluble in nitric acid, therefore silver. Luppo-Cramer's observation of the behavior of the solarized image with nitric acid, by the action of which the solarized image returns to the normal, while the photo-bromide is unchanged, appears to support the view that the provable chemical action under the influence of light not only is not to be regarded as the only cause of the appearance of the image, but that it may even be assumed that the chemical change is absolutely unimportant in the whole process. A new proof in this direction is given by the observation of the same author that by bathing thirty-six hours in 3 per cent hydrogen dioxide solution, or sixteen hours in 10 per cent ammonium persulphate solution, solarized dry plates are completely restored to their original condition, and may be used for new exposures, while the photo-bromide image remains unchanged. Solarized plates treated with persulphate act with reagents exactly as those not treated with persulphate. Bromine water bleaches the visible image; it is not affected by concentrated nitric acid; after fixing both bromine and nitric acid, remove the visible silver image. It seems to follow from this that the visible change of the silver bromide caused by long exposure has absolutely nothing to do with developability or its removal (solarization). It also follows, from the proven behavior of solarized films, that also in normal latent images the proven bromine separation may be unimportant for the initiation of developability. (Phot. Corresp., 1902: 694).

Plombotype The Photographische Mitteilungen gives a short note on this method. Paper sized or coated with starch is floated for three minutes on a solution of 150 g of lead acetate in 450 g of water and 2½ cc of glacial acetic acid. When dry the paper is sensitized by being floated on a 3 per cent solution of potassium iodide. Exposure is under a negative, a greenish image being formed on the yellow ground. Fixation is in a saturated solution of ammonium chloride, the action being allowed to continue until the yellow tint of the ground disappears. A long washing in running water must follow. The finished print is bluish violet. (Amat. Photographer, 1903: 40.)

Sensitizing Plain Paper In sensitizing ordinary paper, unless the image is to have a "sunken-in" appearance, the paper must be at least slightly sized. The following bath allows of salting and sizing at one operation:

Ammonium chloride (pure)	80 gr.
Dry sodium citrate	100 gr.
Sodium chloride	30 gr.
Nelson's No. 1 gelatin	20 gr.
Water	10 oz.

Soak the gelatin in the water until soft, dissolve by heat, and add the salts. Filter the solution and float the paper five minutes. When dry, sensitize by floating for two or three minutes on the following:

Silver nitrate	40 gr.
Water	1 oz.

Add ammonia (*drop by drop*), stirring after each addition, just enough to *almost* dissolve all the precipitate first formed. The stirring is essential to avoid the addition of too much ammonia. Printdeeply from negatives having plenty of contrast, and tone in the following:

Hot water	10 oz.
Gold chloride	1 gr.
Sodium acetate	30 gr.

The bath is ready for use when cold, but must not be made with cold water. The tones are purple. Fix as usual for prints. (Amat. Phot., 1903: 99).

The Crucible

PINACOL N., AS A NEW ALKALI

Dr. Hanneke reports on a compound called Pinakolsalz N., which is somewhat vaguely described as a salt of an amido-acetic acid, whose exact composition is not known. It forms a clear and almost colorless solution, which has not the unpleasant action on the skin which characterizes the caustic alkalies. Various developers, made up with pinacol salt instead of an alkali, are given, of which the following pyro-developer will serve as an example: A stock solution is prepared by dissolving 25 g of pyro and 90 g of anhydrous sodium sulphite in a litre of water. For use, mix 50 cc of this stock solution with 10 cc of pinacol solution and 50 cc of water. Comparison of the above pyro-pinacol developer was made with a pyro-potash developer, prepared by mixing 50 cc of the above-mentioned stock solution with 50 cc of 10 per cent carbonate of potash solution. It is stated that the image appeared more rapidly in the pinacol developer than in the potash developer, and the development is said to have been completed sooner with pinacol than with potash. No data are given as to the gain with respect to time, and somewhat long but indefinite sentences rather suggest a superiority for the negatives developed by the new method. We are told that "the negatives by pinacol are in no way inferior in character to those by potash; they possess in the fullest measure the notable clearness, tone-gradation, and power of negatives developed by pyro. As regards the color of the negative film, it may be said that the pinacol plates show purer black and gray than plates developed by pyro-potash." (Ph. Mitt., 1903: 12; Am. Phot., 1903: 46).

DEVELOPMENT OF ROLL FILM

A French contemporary recommends the following method of handling films during development, fixing, and washing: A strip of film of convenient length, be it one, two, or more exposures, is cut off the roll, and fastened to the outer surface of a round glass bottle of suitable size, by means of two elastic bands at the top and bottom edges. The development is effected by immersion in a cylindrical jar of suitable size. If the bottle and the jar are suitably proportioned, so that the space between them is narrow, but a very small quantity of solution is required. In order to easily sink the bottle, it is to be filled with water. If a large enough bottle is used, a whole strip of film may be coiled spirally around it. Fixing and washing may be accomplished in the same manner, without touching the film with the fingers, and the bottle may be finally hung up for drying by a string around the neck, which has served for a handle during the previous operations. Suitable glass jars may be had from dealers in chemical apparatus.

PLAYERTYPE

Mr. J. H. Player has recently communicated to the Royal Photographic Society some further details of his method of producing a negative from a print without the use of a camera. As may be remembered, this method consists in laying a sheet of sensitive paper face down on the image to be copied, after which the back of the paper is exposed to light. The image is apparently formed because more light is reflected from the whites of the print than from the blacks. One important advantage is that copies can be obtained from books, engravings, and similar objects in libraries, where the use of a camera would not be allowed. It might be expected that the images obtained would be very faint, but, by the use of a yellow screen and daylight, Mr. Player has secured some remarkable negatives. He makes his yellow screen by dissolving five grains of picric acid in sixteen ounces of water, and adding five drops of hydrochloric acid. This liquid is sealed between two plates of glass, in a layer about one sixteenth of an inch thick. Obviously, it would be very easy to dye a gelatin film with picric acid to the same intensity. With such a screen, gravura or velox paper gives a good negative with about thirty seconds' exposure, when developed with hydrochinon.

GOLD CHLORIDE

The preparation of gold chloride from the metal is a very simple process, which requires only a slight knowledge of chemical manipulation, and gives the advantage of working always with a gold chloride of known purity and strength. The fifteen-grain bottles of commerce, as was proved by the analysis of a large number of samples last year, seldom contains more than sixty or seventy per cent of their reputed contents, although the weight is usually nearly correct. This is usually due to the fact that the salt is not the water-free gold chloride, as it should be, but a crystallized salt containing two molecules of water, which, in addition, is always bottled in a moist condition. Many of the samples, in addition, contained more or less sodium chloride. This is no detriment to the working qualities; fifteen years ago most photographers used the double chloride of gold and sodium, but one hardly cares to buy common salt at the price of gold chloride. So the best way is to prepare the chloride from pure gold. Buy from your dentist a pennyweight of scrap gold, or from a refiner, or a large photographic supply house, a pennyweight of ribbon gold, prepared for gold-beaters' use. It should cost a dollar. Both these forms are as pure as commercial gold can be made. Then buy from the druggist two ounces of hydrochloric acid and half an ounce of nitric acid. The mixture of these two acids in the proportion given is aqua regia, so called because it dissolves the noble metal gold, while neither acid will do so alone. Put your gold in a porcelain or glass evaporating dish, or a small beaker, and pour about two ounces of water on it. Add the hydrochloric acid, and warm to about the boiling point of water, after adding perhaps a quarter of your nitric acid. The warming may be done in a tin plate filled with sand, called a sand bath, or, better, by setting the dish over a round hole cut in the lid of a saucepan filled with boiling water. This makes a very good improvised water bath, or steam bath, as it is called chemically. When the acids begin to act on the gold, red fumes are given off. These have a very unpleasant odor, and are poisonous if inhaled in any considerable quantity. So this should be done in a well-ventilated place, and never in a living-room. After the action has stopped, add more of the nitric acid, and continue the addition at intervals until the gold is all dissolved. The nitric acid forms compounds with the hydrochloric acid which attack the gold, but, as these boil off quickly, it is necessary to add the nitric acid a little at a time, as directed. When the gold is all dissolved, continue the heating until the liquid has completely evaporated. During this process the residue of hydrochloric acid naturally goes off into the air, and, as it is not comfortable to breathe it, the ventilation should be good here also. An open fireplace with a good draught is an ideal place for such processes. By this process we get a neutral gold chloride which may be

bottled immediately, and used as desired. In order to dissolve it, and also to keep the solution from depositing gold, a few drops of hydrochloric acid should be used to moisten it before dissolving in water. In practice this amount of gold chloride is best dissolved in thirty-two ounces of distilled water, after previous addition of ten or fifteen drops of hydrochloric acid. One ounce of the solution then contains about one grain of gold chloride. The acid solution can be neutralized by the addition of a little precipitated chalk, until some remains undissolved. This renders the solution neutral, and the insoluble excess has no effect on the toning bath.

In working with the hot acids, care should be taken not to spill any on the flesh or clothes. In case any gets on the flesh it should be immediately washed off with a large quantity of water. Turn the tap on full or plunge the hands in a pail full of water. With acids of the above-indicated strength no burn will result if washed off within a few seconds. The skin will turn yellow in a day or two, and peel off in a week, but no damage results. When nitric acid falls upon cloth it makes a red or yellow spot, which must be neutralized with ammonia, or a hole will result. The color, however, can never be restored, while with hydrochloric or sulphuric acids the color is restored by ammonia. In no case put ammonia on the flesh. The heat developed by the neutralization of the acid will inevitably cause a burn, even though the acid itself might not have time. The principal thing is to remove the acid as quickly as possible, by diluting with large quantities of water. If a burn has already resulted, it may be treated as any ordinary burn, with substances which prevent the access of air to the skin.

Open Criticism

SUNSET ON THE SOUND

We print herewith two criticisms on the picture published in the February issue. Out of the large number sent to us, we have selected these as the most satisfactory:

No. 1. — The worst feature of the unnamed print is that it is without objective point or motive. The eye, lighting upon it, wanders without being able to settle anywhere. We do not know whether it be a road, a pond, or a tree that the artist intended to picture. The lighting is bad, the lights being scattered, giving a blotchy effect. Exposure has been too short, leaving a fence, water, etc., white paper, and darker portions of the bushes perfectly black. Water should have been darker than sky from which it obtains its lights. A few clouds in sky would have served to effect a balance with the landscape. J. C. WILSON.

No. 2. — There are too many conflicting lines in the print. The horizon line is too near the center of the plate. The light and shade are not handled well, and the result is that the print is spotty. There is no central point of interest. The eye is caught by the rail fence and the ruts in the road and led up to the horizon to — nothing — no object to hold the interest. There are at least two good pictures at this place, but the photographer has missed them. L. E. MILLEA.

The prize award will go to No. 1.

Other criticisms received, and deserving of honorable mention, are from R. J. Calkin, A. M. Shurtleff, Herford Hope, H. T. Dougherty, Reuben S. Horman, Thos. J. Curren, G. W. Seaman, Henry S. Parsons, P. M. Riley, F. S. Foley.

We give another picture in this issue. Use a postal card, and limit yourself to one hundred words. The prize award is one year's subscription to the PHOTO ERA.

The Round Robin Guild

Conducted by Elizabeth Flint Wade

(Any amateur photographer may belong by sending in his name and address)

ROUND ROBIN GUILD GROUPS

It is a very good thing, as Emerson says, " to exchange experiences, for thereby one learns something."

There is no class of workers that can learn more by exchanging experiences than the amateur photographer. One of our members realizes that fact, and is anxious to form " exchange groups," composed of five or six enthusiastic amateurs who would, in a " round robin way," send specimens of their work to each other, periodically. For instance, member No. 1 — the order being chosen alphabetically — would send a print to No. 2 for suggestion and criticism. This member would affix thereto his or her ideas of the composition, lighting, and the work in general, and forward it to the next member, and so on through the group until it reached the owner.

This would be a very helpful plan for those who formed these groups. Any member of the Guild who wishes to join such a group and will become the head member is requested to send name and address to the editor of the Round Robin Guild. Their names will then be published, and other members invited to join. The number in each group will not exceed seven. Those who wish to join one of these groups in the vicinity of Boston are requested to send name and address to Mr. Henry C. Robinson, Assistant Superintendent of the Boston & Maine Railroad, Southern Division, Boston, Mass.

We should very much like to see a number of these Round Robin groups formed, for amateurs will derive great help and benefit from this kind of friendly criticism.

Another suggestion made by one of our members, Dr. Vida A. Lanham, is that photographs of interesting things be sent to the hospitals. This same idea was suggested and carried into practice three or four years ago, through the Camera Club of the Harper's Round Table. These prints were made for the children's ward, and the subjects were of pet animals. On the back of each print was written the name of the animal, what things it could do in the way of tricks, etc., and a short history of its life. The pictures were mostly of cats and dogs, — pictures which are a great delight to children, — but there was a set of pictures, showing all the animals on a farm, which was especially interesting.

Children can look at pictures if they cannot read, and if any of our members feel like giving something very nice indeed to the children's ward in a hospital let him or her make a set of pictures, the subjects of which will interest children, write a little description on the back, and send them, say for Easter gifts. Be sure it will be a veritable cup of cold water, and the giver shall not lose the reward.

One of the best ways to enjoy anything in this world is to pass the pleasure along.

PHOTO-CERAMICS

A number of the members of our Guild have asked for information on the process of transferring photographs to china. The directions are rather too long to be given in full in this department, and such of our members who wish to study the subject in all its different phases are referred to the handbooks on the subject. The formula given here is one of the simplest.

Make up a solution of two ounces of gum arabic dissolved in seven ounces of a saturated solution of bichromate of potash. Make up another solution of one half ounce of gelatin, two ounces of a saturated solution of bichromate of potash, and eight ounces of water. The first solution is dissolved without heat, but the second is dissolved by heating in a water bath. To sensitize the china or porcelain take five and one half ounces of the gum arabic solution, two and one half ounces of the gelatin solution, and two and one half ounces of water. To each ounce of this solution add eighty drops of honey syrup, made by mixing equal quantities of honey and water. Heat altogether to about ninety degrees F., stir well with a glass rod, and filter the solution while still warm. Warm the porcelain slightly and pour this sensitive mixture over it in the place where the picture is to appear; drain well and pour over again. The coating must be very even, and warming the china or porcelain and using the bath while slightly warm will secure this result. Dry in a room free from dust and light. The sensitizing process must be done by gas or lamplight.

The picture to be made on the porcelain must be a positive, and if the surface be flat enough — which is the case with plates or plaques — make a transparency on the lantern slide or transparency plates. If too rounding a surface, then a positive of paper or film is used.

Adjust your positive over the sensitive surface, holding it in place with clips, and protecting by non-actinic paper those parts which are not to be exposed to the sun. Expose to bright sunlight for at least ten minutes. There is no way of gauging the exposure, unless one makes trial plates, and this is always a wise thing to do. Spoiled plates or pieces of porcelain may be coated with the solution and trial prints made on them, then the piece to be ornamented can be printed and developed with accuracy.

When the exposure has been made, take any of the enamel colors,— brown will be found the most desirable, especially for portrait work, — take a wad of cotton, breathe on it, or hold it over steam just long enough to moisten it, dip it in the color, and dust it carefully on the image. Do not rub the image, but dab the powder on gently. Gradually the color will begin to adhere to the parts of the picture which were not exposed to the sun. The cotton is again moistened by the breath or by steam, more powder applied, and the dusting-in process continued until the picture is of sufficient strength or density. The next step is the removal of the unchanged bichromate of potash. Make a solution of nitric acid in the proportion of forty drops of nitric acid to an ounce of water. Take alcohol, and for every ounce add fifty drops of this dilute acid. Enough must be mixed to immerse the article in it, or the acid can be poured on and off the plate. When the brown color of the unused bichromate of potash has disappeared, remove from the acid bath and place in a bath of pure alcohol. Let it remain for a few minutes, remove and place in a second bath of alcohol, for, to have the process successful, every trace of the acid and water must be removed. The plate or plaque is now ready for firing, the burning-in of the picture being done in the same way as for china firing.

There are several processes for transferring photographs to china, but the dusting-in process is the simplest, and is usually successful. One cannot expect to make a perfect picture with the first trial, and it is therefore wiser to experiment on small pieces of porcelain until one has learned to coat the surface evenly and to determine just how far the development should be carried.

How to catch clouds was for a long time a problem which the camera artist found it hard to solve. His skies were patches of blank paper, and for any suggestion of a sky one might search as carefully, and with not so good success, as in the puzzle pictures, where one is instructed to find a dog or a man.

Now, however, with the improved methods of coating sensitive plates and the exposure and developing, and most of all for the little device called the ray filter, one can always be assured of securing the pictures of clouds if there be any in the sky. But it sometimes happens that the ray filter is not at hand, or the exposure must be so quick that it cannot be used. The clouds, in consequence, are lost in the development, being much overdeveloped in order to bring out the detail in the landscape. In such a case there is a makeshift which will enable one to show clouds in the sky. This is the device of double printing. The landscape is first printed to the required density, the print taken from the frame, the printed part carefully masked, and a cloud negative substituted for the landscape negative.

The mask is made by taking a proof from the negative, cutting it carefully along the horizon line, and laying it in the sun to blacken. When the landscape is printed deep enough this mask is adjusted over the printed part, taking care that the mask registers exactly with the print, or there will be a line, either white or dark, according to the way the mask is adjusted, all along the horizon.

Where the clouds are not very much overexposed, but are too dense to make a satisfactory print, one can attach a piece of tin to the printing-frame curved away from the frame. This will shadow the landscape part and let the clouds print in deep enough to show. This way of equalizing the printing is only practicable where the horizon line is almost straight.

Most amateurs make a practice of securing good cloud negatives to use with white skies. In developing such negatives they should be brought out very slowly, for if the development is forced or hurried the delicate half-tones, which are the charm of a cloud picture, are very apt to be lost. The best time of year for making cloud negatives is either in the spring or fall, when the weather is variable and cloudy days prevail.

Now, in using cloud negatives with landscape negatives one must use something else, and that something else is brains. If one will use his eyes he will notice that there are all sorts and conditions of clouds; that the clouds of the early morning are not the clouds of midday; and that clouds also have their times and seasons. An April sky in a July landscape would be an anachronism so glaring that the veriest tyro would perceive it. The safe and really artistic way is to make two negatives, one of the landscape and one of the sky, and when printing use the two negatives for the double printing. A print which won much praise when exhibited a short time ago, was a landscape the sky of which was one of the most beautiful examples of cloud photography one would care to see. There was, however, in the foreground a pool of still water, the glaring white surface of which reflected none of the beautiful clouds which floated above it. The artist had printed in his sky most cleverly, but had overlooked the fact that if such cloud conditions had prevailed as were shown in the sky they would certainly have had their counterpart in the pool.

Study your skies; study your landscapes; then choose your skies to harmonize with your landscapes.

While on the subject of clouds, it may be well to speak of so-called "moonlight effects," a number of our correspondents having sought information on this subject. Moonlight effects are obtained by choosing a sunrise or sunset sky which is full of clouds, pointing the camera directly at the sun, and making an exposure just as clouds pass across its face. The best results are obtained with non-halation or orthochromatic plates.

The effects obtained in the early morning are far more artistic than a picture taken at or near sunset. In the morning at "sun-up" the mists and fogs rising from the ground produce fine atmospheric effects, a thing which the camera artist strives for continually and attains so seldom. The reason may be summed up in a few words.

Sometimes these so-called moonlight pictures do not suggest moonlight at all, but in some cases they are quite realistic moonlights, the sun masquerading as the moon and, like the moon, "turning the clouds, as they pass, to light."

BROKEN NEGATIVES

So many of our members availed themselves of the offer to send the directions for transferring the film from a broken negative to a whole glass that it seems wise to print the details of the process for the benefit of those who were too modest to ask for themselves.

If the glass be broken and the film remains intact the film may be transferred to another glass and the negative be as "good as new."

Take a glass plate the same size as the negative, or a size larger, and put a bit of beeswax at each corner and a little along the glass where the crack will come in the broken negative. Apply a gentle heat to the glass until the wax is melted; then place the broken negative on it, and press the two carefully together. This precaution prevents the tearing of the film and makes a support for the broken negative. Next mix together two ounces of water, six ounces of alcohol, and twenty-four millimeters of hydrofluoric acid. This is placed in a rubber tray. In another tray put a solution made of two ounces of water and six ounces of alcohol, and place a clean glass at the bottom of this tray. Immerse the broken negative (previously attached to the whole glass) in the tray containing the acid solution and rock the tray gently. In a few minutes the film will begin to loosen at the edges. With the ends of the fingers — protected with rubber finger-tips — push the film gently from the glass, keeping it beneath the liquid while stripping it from the glass. When it is loose from its original support take a clean glass, lift the film by one corner, and slide the glass under it, handling it very carefully. As soon as the film is on the glass, transfer it to the tray containing the alcohol and water, sliding it gently into the liquid. Straighten it out under the solution; lift the glass from the tray, and, with a wad of surgeon's cotton or a camel's-hair brush, press the film to the glass, forcing out all the air-bubbles between film and glass. When it is in place and in perfect optical contact, drain and set the plate away to dry where it will be free from dust.

The process reads rather complicated, but in practice it is a simple matter to transfer the film from one glass to another.

John R. Smith. — The prints which you have sent for criticism are for the most part excellent both in finish and selection of subject, point of view, etc. The only fault — though fault is hardly the word to use in this connection — is the absence of clouds in the sky. The picture, "Landing the Fish," is fine, and has a sketchy effect which is very attractive. The sailboat is just near enough and just far enough away to lend the needed perspective. The composition of this picture is very good. If you have a negative taken at the same time of day, showing a few light clouds in the sky, they could be printed in with good effect. See this number for the printing in of clouds. They should be printed in very lightly so as to harmonize with the tone of the picture. Your views of the quaint streets and houses of Provincetown make one desire to pay a visit to this interesting town.

Mrs. W. A. Blumenthal. — The present number of the Guild contains directions for making photographs on china and porcelain. This is the easiest method of making prints on china, and if you follow the directions carefully, first making experimental prints as suggested, there is no doubt of your success.

John W. Faull. — If you wish a book on Photo ceramics we shall be glad to supply you with a copy at publishers' rates. In this number you will find directions for the dusting-in process, which is the simplest of all methods for making photographs on china.

P. Ruttkay. — We shall be very glad indeed to have you take charge of the historical guild work in your locality. Our circulars are almost ready for distribution, and will be sent you as soon as ready for mailing. In them you will find full suggestions on the methods proposed to carry on this important work.

P. M. Riley. — The solution for flattening bromide prints is equally serviceable to use with velox prints. The velox prints will stay flat if they are first dried and then drawn carefully over the edge of a drawer. This straightens them, and they will not curl again.

A Ray focusing camera, plate 4 x 5, fitted with a R. R. lens, Iris diaphragm and Unicorn shutter, having 3 double plate holders, tripod focusing cloth, and ray screen. Total cash when new about $20. Is as good as new, having been used but a few times. Will be exchanged for a No. 4 Panorama Kodak equally good. Address, John R. Smith, Provincetown, Mass. Box 223.

Vera Burns. — To make photographs appear on apparently blank paper, make a print on albumen paper and fix and wash it without toning; then immerse in a saturated solution of bichloride of mercury until the image has disappeared; wash and dry. To make the image visible, place the picture in contact with a sheet of moistened blotting-paper, which has been previously soaked in a saturated solution of hyposulphite of soda. In a few minutes the picture will appear in as strong lines as before the immersion in the mercury. The picture will fade again after a time, but may be "restored" at any time by means of the hyposulphite of soda sheet. To make the trick mysterious, place the moistened sheet of paper in a book; show the plain piece of paper; place it in the book next to the blotting paper; let it remain for a few minutes; then take it out and exhibit the picture.

G. M. B. — An excellent way to label bottles for the dark room is to paint on them directly with white enamel paint. Make the letters large and they are easily distinguished.

Bertha D. — No; a vignetter to be used in the camera would not be a good investment. If you will study the pictures made by this process you will see how very inartistic they appear If you wish to vignette a picture use either a vignetting glass or a plate box with an opening torn in it the size which you wish the vignette. Unless it is desirable to block out some portion of a picture the print is more artistic if cut either square or oblong, and neither vignettes or cut-outs of any shape employed. By all means avoid the masks cut in bizarre shapes with angles and curves. They spoil the effect of the finest picture.

Notes and News

BOSTON, MASS. Officers of the Lens and Brush Club have been elected as follows: President, W. E. Marshall, of Arlington; vice-president, E. G. Merrill, of Salem; secretary-treasurer, W. John Searle, of Boston; advisory committee, M. B. Parkinson, A. A. Glines, and H. A. Latimer, all of Boston.

An exhibition of photographic prints, mostly of architectural subjects, by Mr. Frederick H. Evans, of London was held at Mr. F. Holland Day's studio, Harcourt Building, on Fridays and Saturdays, Feb. 20 to March 1

OTTAWA, ILL. The Camera Club held a very interesting meeting, Feb. 27, at the office of Horace Hull. The program for the evening was a very interesting and instructive talk by W. W. Nash, on the "Tools of the Craft — the Camera and Lens." Mr. Nash gave a very fine talk, illustrating his remarks with diagrams, etc. This is the first of the series of educational programs of the club and will be followed by others along the same line.

PITTSFIELD MASS The Ramblers' Camera Club of this city has been organized, with Frank North as president.

GRAND RAPIDS, MICH. The fifth annual exhibition of the Grand Rapids Camera Club will be held at the Pantlind Hotel, on March 18, 19, and 20. Twelve classes of studies are on the list of entries for prizes, and the prospects are for the most successful exhibition ever held under the auspices of the club.

During February, the members of the club had on exhibition at the club-rooms, Auditorium Building, a collection of pictures from the studios of Elizabeth Flint Wade and Rose Clark, of Buffalo, N. Y.

TAUNTON, MASS. The Camera Club has elected officers for the year 1903 as follows: President, F. C. Whitehead; vice-president, Charles A. Brown; secretary and treasurer, William A. Bellamy; trustee, F. A. Paull; auditor, William Whitehead.

TOLEDO, OHIO — The executive board of the Ohio and Michigan Photographers' Association met at the St. Charles Hotel, Jan. 29, to consider arrangements for next summer's convention to be held at Saginaw, July 22 to 24.

There were present the incoming officers who make up the board, as follows: President, A. L. Bowersox, of Dayton; vice-president for Ohio, Frank R. Bill, of Cleveland; vice-president for Michigan, C. A. Beckman, of Saginaw; secretary, W. F. Wolf, of Cleveland; treasurer, W. L. Smith, of St. Marys; and the retiring president, C. S. Bateham, of Norwalk.

PROVIDENCE, R. I. — The first exhibition of the work of the women members of the Providence Camera Club was held in February, at the rooms of the club, and the exhibit of high-class photographs well repaid all who saw it. The exhibit compared well with any that have gone before. A majority of the photographs were portraits and figure studies, but there were enough marines and landscapes to give a pleasing variety.

The list of exhibitors included Miss F. E. Henley, Misses A. H. and C. T. Child, Miss Ruth L. Anthony, Miss Sarah J. Eddy, Miss Mary G. Huntsman, Mrs. Bessie Brown Polleys, and Mrs. Helen West Cook.

CAMBRIDGE, MASS. — The Harvard Camera Club held an exhibition and a lecture on "Color Photography," given by Prof. Louis Derr, of the Massachusetts Institute of Technology, in the lecture room of Pierce Hall, Wednesday, Feb. 18. The annual exhibit of the club was opened that evening in the museum room of Robinson Hall.

GLOUCESTER, MASS. — The regular meeting of the Cape Ann Camera Club at the rooms, on Feb. 2, was a well-attended and enjoyable event. President Docherty presided, and considerable progress was made toward the photographic exhibit which will be held in March.

Following the business meeting, the committee on refreshments, Dr. Logan and R. W. Phelps, officiated at the chafing dishes and served delicious lobster Newburg, receiving the commendation of all on their efforts as chefs.

Following the supper, came a session of sociability, presided over by Ernest L. Blatchford.

JERSEY CITY, N. J. — The first regular meeting of the recently organized Camera Club of the First Congregational Church was held recently in the lecture-room of the church, Bergen and Boyd avenues. Membership is not restricted to members of the church, and all who are interested in amateur photography are invited to join the club. Mr. Lester Dygert, a well-known amateur photographer, is the president of the club, and he will also be club instructor. A room has been partitioned off in the basement of the church, which will be made into a dark room, and everything necessary for the developing of plates and films will be provided. Members will have access to the rooms every day and evening, Sundays excepted. The room will have two doors, so that members can enter without disturbing the work of others.

Several trips are being planned by the club, and prize exhibitions will be a feature of the organization.

BEVERLY, MASS. — A photography section of the Centennial Club was organized at the Dane Street Chapel, Tuesday evening, Feb. 17, when the classes in current fiction and silk embroidery also met.

MONTREAL, CANADA — The parlors of the Montreal Camera Club were well filled Tuesday night, Feb. 24, when a lecture was given by Mr. C. F. Stanley on X-ray photography. The entire apparatus and its workings were explained in a clear manner by the lecturer. He demonstrated the powers of the cathode ray in photography, and several of those present had pictures taken of their hands and feet. Cardboard was experimented with, holes being cut clearly through cards by the current wherever it touched it.

PENROSE'S PICTORIAL ANNUAL, 1902-3 — We have received Penrose's Pictorial Annual, 1902-3; a most interesting volume in which all modern methods of producing illustrations by photo mechanical arts are most ably discussed by the leading workers of Europe and the United States. The work contains nearly fifty technical papers, describing the processes required for producing printing-plates by photographic means; and the nearly two hundred illustrations in black and colors are as varied as the methods described, which cover half-tone, trichromatic, collotype gelatin, copper, and steel engraving processes.

The technique of the book is the highest, and is a credit to its publishers, A. W. Penrose & Co., 109 Farringdon road, London, E. C. The work can be obtained of Tennant & Ward, sole American agents, 287 Fourth avenue, New York. 136 pp. $1.50.

PHILADELPHIA, PENN. — The Philadelphia Photographic Society, the oldest photographic society in the United States, has just purchased the property 1722 Arch street, of that city, for a sum approximating $18,000.

It is proposed to remodel a part of the building and make an ideal club-house, at a total cost of about $27,000, for all equipments.

The large parlor on the first floor of the newly acquired building will be turned into a library and reading-room. The floor overhead will be converted into an assembly room, 21 feet wide by 38 feet deep, with three windows in the front and one in the rear.

A new skylight will be put in, and facilities necessary for the equipment of a photograph gallery will be installed. It is estimated that the increased cost of maintenance will be about $500 annually. To meet this there has been an increase of dues.

MINNEAPOLIS, MINN. — The first photographic salon held in the city was opened Feb. 6 to 16, at the gallery of the public library, under the auspices of the Minneapolis Society of Fine Arts and the Minneapolis Camera Club. Two hundred and seventy-one pictures were shown, including those of the best artists from New York to San Francisco, eighty-eight exhibitors being represented.

The place of honor was given to the invitation exhibition of eighteen prints from the famous Photo Secession of New York. Of these Alfred Stieglitz and Frank Eugene have some fine portraits, and Gertrude Kasebier has some poetical subjects beautifully treated.

Among the interesting groups are several from Chicago, including the strong, dark photographs of Solon L. Sates, and work by Edward L. Bourke, E. M. Blaine, and Robert E. Weeks. Curtis Bell had a very interesting picture of two cats stretching up to reach something on a cupboard shelf. Interesting character studies of women are shown by George Donehower, and there is a fine foreign flavor to W. Otto Emerson's prints of "Flax-Spinner of France," and "In the Land of Corot."

PHOTO ERA

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March What wonderful transformations a few days, at this season of the year, make in the appearance of nature. Wild and blustering March, with its keen north winds and light falls of snow, slips hurriedly by. The fields appear very barren and unattractive with the dead leaves mouldering on the dry grass and the earth bound up tightly with chains of frost. The south wind stirs, a dripping shower refreshes, and nature appears resurrected, decked out in robes of richest green.

"We hush to hear the sweet
Far fall of summer's feet,
And soon,
In the calm blaze of noon,
By lowly window sills,
Will laugh the daffodils."

Catatype We call attention to this new photographic process which is referred to at length elsewhere in this issue. While the results, thus far, are by no means satisfactory, it is reasonably sure, in the very near future, to simplify many processes now in use.

The method is described as follows: Over the finished negative is poured a solution of hydrosuperoxide. This leaves, after evaporation, a uniform layer of peroxide of hydrogen. Soon the silver of the plate works upon this peroxide and produces a catalytic dissolution wherever there is silver, while, in the places free from silver the peroxide remains. By this means an invisible picture of hydrosuperoxide is produced upon the plate. This picture can be printed from the plate directly upon common paper, to which the image is transferred in a few minutes.

There are various ways of developing the picture. For example, treatment with a solution of green copperas produces a weak yellow picture of iron, which with ferricyanide of potassium is made blue, with gallic acid is made violet, and with pyrokateolin is made black.

As many of the colors named above are durable — the picture with gallic acid consists of common ink, which can last for centuries — the problem of making the common silver photograph lasting appears to be solved.

Moreover, it is no longer necessary to photograph upon a transparent surface like glass or celluloid, as light is not needed in the printing process. The printing is all done direct from the plate.

At last the photographer finds himself relieved of a number of tedious intermediate processes between the development of the plate and the finished picture.

Photography in Colors The three-colored insert published in this issue directs attention anew to the possibility of reproducing photographs in natural colors. The PHOTO ERA will give special attention to this kind of work in the future. We hope to be able to favor our readers shortly with a remarkable three-color print, by Dr. Miethe, of Germany, who has demonstrated how a sensitizer can be used in the manufacture of an orthochromatic plate, and, then, in conjunction with color screens, can be made to produce a photograph in natural colors.

"We gather from Dr. Miethe's description of this photograph," says the British *Journal*, "that he and Dr. Traube have been occupied with a systematic investigation of color sensitizers. They find that ethyl-red is a sensitizer for the entire visible spectrum, even including the well-known gap which occurs in the green-blue region. They claim it to be unique in this respect. The plates used for the picture named above were dipped in a solution of this dye, and Dr. Miethe estimates their sensitiveness as eight to ten times greater than that of the Perchromo plates which he formerly used. With the filters of his make, the exposure is about the same for red as for blue, whilst for green it is twice as quick. Using a lens stopped down to F. 12.5 on a bright September day, without sun, at half past ten in the morning, the exposures were one and one half, three fourths, and one and three fourths seconds for blue, green, and red, respectively. We would again impress upon photographers the great importance of closely watching and studying the improvements which are slowly but surely being made in the pro-

cesses of color-photography. The art of the professional photographer cannot remain a monochromatic one. At the present moment portraiture by the three-color process is within his reach, and, as in the days of the wet-plate, those who first succeed in mastering the technique will reap the richest harvest. Many photographers lament the facility with which the dry-plate process may be acquired, and turn their minds regretfully to the past, when manipulatory skill protected them from keen competition. If there be a genuine desire for work of a higher order, the field of color-photography lies temptingly before them."

Photography and Religion We have long believed and still hold to the opinion that next to religion, Picture-making by Photography is one of the most powerful factors to help make people good. Assuredly it is one of the strongest influences to throw around young people to shield them from evil. And both old and young are benefited and strengthened by cultivating a love for nature and for the beautiful, such as the right use of the camera will surely engender.

We are not, therefore, surprised to learn, as noted elsewhere in our Notes and News page, that certain churches in Massachusetts and New Jersey have already organized camera clubs among their members and have set apart rooms in the church building to be used as a dark room and for lockers. For some years past the stereopticon has been recognized in many of our leading churches as a factor in church work, especially in teaching Bible history.

Photographs from life and lantern-slide pictures have been used to make clear to congregations and Sunday-schools without number, many passages from the Old and New Testaments.

Finally, at a recent Sunday-night lecture in Brooklyn, N. Y., Institute, on "The Power, Wisdom, and Goodness of God, as manifested in his works," we read of how the lecturer, Garrett P. Serviss, told of the great celestial discoveries made recently by photography.

"The founder did not ask us to discuss God," he continued, "but simply how He has manifested himself." He believed that all who studied astronomy must have a consciousness of the great All-Power that could direct such an array of worlds and keep them non-interfering.

Mr. Serviss gave a description of the spectrum and of its principles, which he made so simple that any one could understand, being aided in his explanation by the photographed results of experiments showing the formation of the ribbon of colors by the white light focused through the prism, and then of the lines on that ribbon which are made by the various vapors. In later pictured explanation, when these lines appeared, he called attention to them and said: "You see the signature of a vapor cannot be forged. The spectroscope makes us like gods upon the earth, for by its aid we read this writing in the heavens. It gives us a wonderful grasp upon the system of motion."

By its aid, about ten years ago, he said, the discovery of distant suns in space was made, and when speaking of the double stars and contrasts of colors in stars he said these contrasts proved that young stars are sometimes linked to old ones, "for the colors furnish a clue to the age of a star as truly as a jockey reads the age of a horse by its teeth." Red means decrepitude, and the blue, yellow, and green stars are young.

Such a lecture, with its imposing array of truths and pictures, is as powerful as any sermon. And we submit that, in the light of all these facts above enumerated, photography has now become the handmaid of religion.

Ourselves It is not the part of wisdom to be eternally boasting, even in advertising. We believe it is always better to slightly understate rather than to exaggerate the quality of goods for sale. A plain, honest statement always carries conviction. We therefore merely rise to state that the new PHOTO ERA is a success. We cannot print copies enough to supply the demand. Orders for the April issue should reach us at once in order to be filled promptly. We again call attention to the proposed increase of price. On and after April 1, the subscription will be advanced to $2.50 a year, while the retail price will be twenty-five cents a copy. Meanwhile, subscriptions sent in during March will be accepted at the old rate, $1.50 a year. The editor of the *Photo Miniature* is authority for the statement that the PHOTO ERA is a bargain at the price.

Prize Awards The grand prize award for the best set of photographs submitted in our First Photographic Contest has been made to Wm. Whitehead, of Taunton, Mass., who offered six pictures in his collection. Honorable mention in this class goes to Geo. H. Seeley, of Stockbridge, Mass., and also to Miss Cora Stanwood Cobb, of Newton, Mass.

The first public exhibition will be held at the rooms of the PHOTO ERA, 170 Summer street, during the week beginning March 23. The public are cordially invited.

A WATER-CARRIER, CUBA.

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